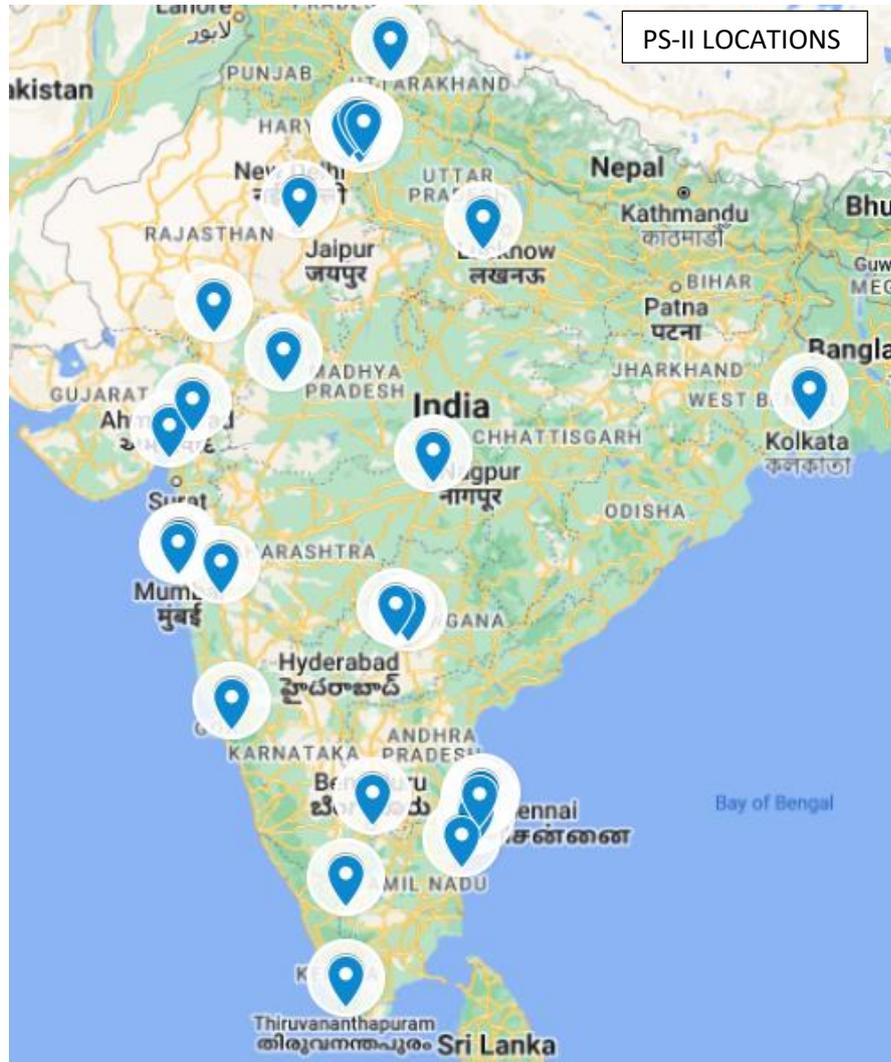


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From the Desk of the Editor

It is my great pleasure to bring forth the 16th edition of the PS-II Chronicles. This edition features over 810 articles from mentors, students and PS faculty sharing their experiences from the I Semester of 2023-2024. This huge increase in numbers are a testimony to the usefulness of the PS- II Chronicles and its increasing popularity.

The primary aim of the PS-II Chronicles is to record the overall PS-II experiences of all the stakeholders – the students, the PS faculty and the Industry mentors.

The objectives of this Chronicles are manifold

- Prospective PS-II students can get to know about the experiences of their seniors, currently at PS – thereby increasing awareness in the student community.
- Increasing awareness among faculty about the nature of work happening at various PS-II stations.
- Bring back the experiences gained at PS-II station into academics - making the curriculum more industry relevant.

I would like to thank everyone who has participated in this activity - the students, the industry mentors and the faculties for sharing their experiences. Thanks for making the 16th edition an even more bigger and better experiences.

I would also like to thank Prof. Arun Maity, Prof. S. Murugesan and Prof. Mahesh Kumar Hamirwasia for reviewing the articles. I would also extend my thanks to Mr. Om Prakash Singh Shekhawat, Varun Singh, Shyam Sunder Saini of the Practice School Division of BITS Pilani – Pilani Campus for their help in bringing out the edition of PS-II Chronicles.

I would be happy to receive any feedback regarding the Chronicles. Please feel free to email me at psd@pilani.bits-pilani.ac.in or at muthug@pilani.bits-pilani.ac.in

Associate Dean

PS-II Station : 1Clicktech Global Services Pvt. Ltd. , Gurugram

Faculty

Name: Gopalakrishnan Venkiteswaran

Student

Name: NITIN RANA .(2019B5A80557P)

Student Write-up

PS-II Project Title: Auction

Short Summary of work done during PS-II : First off I worked on the Next Js, Redux and Typescript based front-end and created microservices as when required for managing auctions, products, cart, order and feedback. Once we had the working prototype, the task was to bring down the latency as much as possible. So I worked on removing the performance bottlenecks of the project. removed multiple re rendering issues of the various components, implemented debouncers to reduce api calls while the user searches for something, implemented caching using redis with cache-aside strategy in the server side of the project. To handle concurrent bidding clients was expecting around 1k to 5k bids a second so I integrated rabbitmq queue to make bid processing asynchronous, persistent and so that the system could process the bids one by one then I implemented pagination to make api responses less heavier. Integrated pusher websocket for real-time notifications and to send data instantly to the user in all the services. Also we had this business transaction where once a user wins some product then we had to handle multiple transactions. So I implemented the SAGA pattern with a choreography based approach. It ensured that distributed databases followed ACID properties.

Tool used (Development tools - H/w, S/w) : JetBrains Space, Jenkins and GIT

Objectives of the project : Objective is to build a auction website to provide better experience than the existing competitors.

Major Learning Outcomes : It helped me get hands-on experience of all the academic courses related to CS. I got exposer to the distributed systems and learnt about payment systems.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment is really cool there. People are really friendly and they don't expect unreal things from you. There used to be weekly meetings with seniors where you just have to share what all have you done in the past week. Even if you haven't done much due to some learning and all, they won't mind at all. Learning curve is exponential there as most of the things you need to learn and implement.

Academic courses relevant to the project : OOP, DBMS, OS, Computer Programming

Name: [VANSH PALIWAL\(2020A3PS1751G\)](#)

Student Write-up

PS-II Project Title: Auction website

Short Summary of work done during PS-II : Worked on different java api

Tool used (Development tools - H/w, S/w) : IntelliJ, Vscode

Objectives of the project : To build a live biding auction website

Major Learning Outcomes : Java spring boot, php, laravel

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment was pretty good, but there were meeting after working hours, as it was an startup.

Academic courses relevant to the project : Oops

PS-II Station : Acceldata Technology Pvt. Ltd. , Bengaluru

Faculty

Name: Sugata Ghosal

Student

Name: REGINTHALA YASWANTH(2020A3PS0588H)

Student Write-up

PS-II Project Title: Software Development & Automation Testing

Short Summary of work done during PS-II : Development of Re-Portal , a vital internal tool that our company relies on to efficiently manage and monitor various aspects of our software development process. This tool plays a pivotal role in keeping track of critical information related to our builds, commits, build quality, and the deployment of these builds across different environments & Writing ADOC Automation Scripts for frontend & API testing.

Tool used (Development tools - H/w, S/w) : Angular , Django , Cypress

Objectives of the project : Development of RE portal & Automation suites for ADOC

Major Learning Outcomes : Improved my programming & communication skills and great work experience

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment .

Academic courses relevant to the project : OOPS, DSA

Name: [SANKALP SINGH\(2020A8PS1789G\)](#)

Student Write-up

PS-II Project Title: Automation

Short Summary of work done during PS-II : Automated admin central and compute page - both UI and Backend Automation

Tool used (Development tools - H/w, S/w) : Cypress, Jenkins, Rest Assured, Jira, IntelliJ, VS Code

Objectives of the project : Automation and Testing

Major Learning Outcomes : Learnt Cypress, REST Assured, and Typescript

Details of Papers/patents : no paper published

Brief Description of working environment, expectations from the company : Working env was good.

Academic courses relevant to the project : OOP

PS-II Station : Aditya Birla Capital - Non Tech , Mumbai

Faculty

Name: Gaurav Nagpal

Student

Name: AARUSHI ROY .(2020ABPS1855P)

Student Write-up

PS-II Project Title: IT Asset Management

Short Summary of work done during PS-II : My work mainly involved interacting with various SPOCs (specific points of contact) of the IT Asset teams of the 7 LOBs (Lines of Business) under Aditya Birla Capital. I catered to ABML (Aditya Birla Money Limited), ABSLAMC(Aditya Birla Sunlife Asset Management Company), ABSLI (Aditya Birla Sun Life Insurance), ABIBL(Aditya Birla Insurance Brokers Limited), ABHFL (Aditya Birla Housing Finance Limited), ABHICL (Aditya Birla Health Insurance Corporate Limited), and ABCD (Aditya Birla Capital Digital). My work was mainly comprised of explaining to them the IMAC (install, move, add and change) processes integrated with the BMC Helix Tool and understanding the difficulties they faced related to onboarding the various processes. As per their requirement, multiple processes had to be made live so that they could shift from manual IT Asset maintenance to automated IT Asset maintenance as soon as possible and optimise cost efficiency as in the past, several IT assets have been misplaced due to lack of proper database maintenance by the HR teams of the respective LOBs. If they faced difficulties implementing the processes, I conveyed the same to the third-party vendor team, Kinsfolk, who would assist them with the UAT links for testing the processes.

Tool used (Development tools - H/w, S/w) : BMC Helix Tool, SmartIT Tool, MS SQL Server 2019, MS Excel, MS PowerPoint, PowerBI

Objectives of the project : To enhance asset visibility, optimize lifecycle management, ensure compliance and security, drive cost efficiency, promote employee awareness and training related to IT Asset Management, improve risk management, enhance reporting and analytics, and facilitate centralized governance.

Major Learning Outcomes : IT Asset management is required for data security in every firm, and the firm must maintain centralized databases to prevent ambiguity and optimize cost efficiency.

Details of Papers/patents : Work was related to the company's IT Asset Management, which is confidential; hence, no papers/patents could be published.

Brief Description of working environment, expectations from the company : The working environment in the company is extremely casual and toxic. People would not respond to your emails or Teams messages for days altogether and, in turn, blame you for not conveying information. Throughout the 5-month internship, not one orientation session was organized to explain the company rules and guidelines. People there have a very sarcastic and threatening way of communicating. They are also very uncooperative and unaccommodating, and one needs to keep asking for months to get even basic things approved. They would assume things without giving you a chance to explain in case of misunderstandings. The manager would call you to the office and not come herself. I had a lot of expectations from the company in terms of learning. However, I have been thoroughly disappointed as people there were always busy with their work and would not take the time to explain things to you or work with you. The HR department especially is very rude and lazy. The only thing that matters to them is whether you are coming into the office and punching in your attendance. After that, it does not matter if you leave half day or sit idle in the office for the entire day. There is also a lack of coordination amongst departments, which delays your work and adds to misinterpretation of information. People there are extremely demotivating and would never appreciate you for any contribution. The company has no interaction or feedback system where you can raise your concerns.

Academic courses relevant to the project : Operations Management and Principles of Management

PS-II Station : Aditya Birla Capital - Tech , Mumbai

Faculty

Name: Venkata Krishna Sashank Dara

Student

Name: SIDDHANT OJHA(2020A3PS1771G)

Student Write-up

PS-II Project Title: Project Management: IT Security

Short Summary of work done during PS-II : Created project plan and contributed implementation of 4 major and 3 minor projects at Aditya Birla Capital. Key roles were creating a phase wise project plan by taking into consideration 8 different lines of business of ABC group.

Tool used (Development tools - H/w, S/w) : MS Office, PowerBI, Sentinel One, cyberark, Arcon

Objectives of the project : Project Planning and Cybersecurity Governance

Major Learning Outcomes : Corporate culture, MS Office suite, Financial Planning and Analysis, Network Infrastructure

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Overall corporate culture was very good. I got to learn several things both at technical and professional level.

Academic courses relevant to the project : Financial Management

PS-II Station : Aditya Birla Science & Technology Company Ltd. , Mumbai

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: ADITYA PATEL .(2020A1PS1483P)

Student Write-up

PS-II Project Title: Process improvement based on data analysis and energy balance

Short Summary of work done during PS-II : Used concepts from data analysis and energy and mass balance to conduct calculations and optimise plant production operations

Tool used (Development tools - H/w, S/w) : Excel, aspenplus

Objectives of the project : To optimise plant production

Major Learning Outcomes : Application of data analysis, chemical engineering concepts

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very good. Everyone was very helpful and promoted a learning environment for us. The company treated us as equals and our mentors were always available and ready to listen to us.

Academic courses relevant to the project : Heat transfer

Name: SWARANJALI SHRIVASTAVA .(2020A1PS1718P)

Student Write-up

PS-II Project Title: Data Analysis of Real-time data for Hall-Heroult process

Short Summary of work done during PS-II : Used transforms like Fast Fourier transform and Hilbert Huang transform to study the raw signal in frequency domain and time-frequency domain. Results obtained from both the techniques were compared to find out the better technique. This was done to find out the frequencies and thus time periods of the important events taking place during the Hall-Heroult Process which is used to extract aluminum from alumina. In the second part of the project, different types of smoothing filters were studied to filter out the noises present in the raw data, so that decisions can be taken based on the smoothed data.

Tool used (Development tools - H/w, S/w) : Python, Excel

Objectives of the project : To find better techniques for the analysis of real-time data

Major Learning Outcomes : Different techniques of data analysis

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : All the mentors at the company provided their guidance and support at every step of the project. There were so many things to learn at both professional and academic level.

Academic courses relevant to the project : Process dynamics and control, machine learning, mathematics-2 and 3

Name: HEMANTH KUMAR G V(2020A1PS2282H)

Student Write-up

PS-II Project Title: Study on Impact of combustion of alternate fuel in cement process industry

Short Summary of work done during PS-II : The industry is heavily dependent on coal as a fuel for combustion processes which is increasing their operating expenditures. So, an alternate fuel (like MSW, agriculture waste, industrial waste) is suggested for co-firing with coal to give the same amount of energy for combustion, this was modelled in the Aspen simulator and its effects were studied.

Tool used (Development tools - H/w, S/w) : AspenPlus, Excel.

Objectives of the project : To model the cement calciner with alternate fuel combustion and study its effects on the process parameters.

Major Learning Outcomes : To carry out material and energy balances, Ability to understand process flow diagrams.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The environment was slow but supportive and every person in the organization was approachable with each individual having good level of intellect.

Academic courses relevant to the project : CPC, CETD.

PS-II Station : AgileConnects Pvt. Ltd. , Nagpur

Faculty

Name: Pravin Yashwant Pawar

Student

Name: SAINIKHIL RAMPRASAD KANCHUMARTHI(2020A8PS1809P)

Student Write-up

PS-II Project Title: Dynamic Data Analysis Dashboard

Short Summary of work done during PS-II : AgileConnects is an IOT startup . It focusses on developing ,installing and maintaining it's data collection, and MQTT brokers . The brokers collect the data of parameters like voltage , current , power consumed etc and transmits it to our PCs .The data is then analysed and the team comes up with solutions to optimise the power consumption. I was given a task of developing a web application to help the monitoring team visualise the data . I started with Python, SQL , Pandas , OOP and picked up Django and frontend frameworks . With the help of my mentor Mr Rohan Pande , I was able to develop a fully functional web application with features like registration, Access Control List and Graphs .The main challenge was to retrieve the data from the main database and tweak it to match the HTML table format . I added features like selection of Db , Date and time , which sent the particular Queries to the backend to retrieve the data . I worked on algorithm optimization to minimise the reload time and enhance the user experience. It was a great experience working with the team .

Tool used (Development tools - H/w, S/w) : Backend : Python ,Django , Pandas , SQL .
Frontend :HTML,CSS,JS,AJAX , Chart.js

Objectives of the project : Develop a Web application for the data monitoring team. Fetch the data and visualise it through tables and charts .

Major Learning Outcomes : 1. Learnt full stack web development from scratch

2. Learnt the art of product development, keeping the customers' requirements and technical feasibility in mind .
3. Improved my time management and team-coordination .

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The staff was supportive , I received a lot of constructive criticism from my manager cum mentor , Mr Rohan Pande and the CEO , Mr Nitin Nistane , who made sure that I was on the right learning track . There were instances where I felt confused and lost , but I was given ample of time and support to pick things up on my pace . Working at AgileConnects had been a great experience.

Academic courses relevant to the project : C Programming , OOP, OS

PS-II Station : AgNext Technologies (Phase-3) , Mohali

Faculty

Name: K Venkatasubramanian

Student

Name: DEBARSHI DAS .(2020A8PS0545P)

Student Write-up

PS-II Project Title: STM32 Microcontroller and Sensor Interfacing

Short Summary of work done during PS-II : Worked with the STM32 Nucleo-L010RB microcontroller. Programmed the microcontroller using embedded C language in STM32

CubeIDE. Integrated various modules like the DS18B20 Temperature sensor, DS3231 RTC module and the SSD1306 OLED module using I2C, SPI and UART communication protocols. Facilitated a smooth transition from ESP-32 to STM-32 microcontroller which helped to decrease power consumption by 40% in all the devices.

Tool used (Development tools - H/w, S/w) : STM32 CubeIDE, STM32 Nucleo-L010RB Microcontroller, DS18B20 Temperature Sensor, DS3231 RTC Module, SSD1306 OLED Module, Nokia 5110 LED, Nextion NX8048K070-011R, Nordic NRF52840, Google Forms.

Objectives of the project : To work with the STM32 Nucleo-L010RB microcontroller and design models that integrate this microcontroller. To understand the powerful features of the microcontroller by reviewing its datasheet. To study the UART, I2C and the SPI communication protocols which would be extensively used during the process of interfacing. To learn and revise the concepts of embedded C language for programming the microcontroller. To learn the process of debugging by actively experimenting with every possible alternative to pinpoint the source of error.

Major Learning Outcomes : I acquired an in-depth understanding of microcontrollers, particularly the STM32 Nucleo-L010RB and its low-power variants. This involved a detailed study of the microcontroller's datasheet, circuit design, and hands-on experience in manual operation.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : It was a very good working environment. My mentors were very supportive. They guided us through the project objectives and they provided us with the training required to complete the project successfully. Each and every doubt that I had was resolved by the team which allowed me to complete my daily tasks seamlessly. Every person of the IoT team had an expertise in a certain area and they shared their knowledge with each other whenever they encountered a problem. This fostered a sense of unity and a mutually beneficial learning experience which resulted in efficient problem solving.

The company expected us to be honest in our work and complete our assignments within the deadline. They wanted us to report our progress daily in a scrum meeting. In other words, they always ensured that we were engaged with some task.

Academic courses relevant to the project : Analog Electronics, Analog and Digital VLSI Design, Digital Design, Embedded Systems, Microelectronic Circuits, Signal and Systems, Control Systems

Name: AYUSH RANJAN .(2020A8PS0554P)

Student Write-up

PS-II Project Title: Wireless sensor network using CC1120

Short Summary of work done during PS-II : We created a wireless sensor network using CC1120 RF communication module. Developed a router and a gateway to increase the range of this WSN. The cost of the complete solution was reduced by about 60%

Tool used (Development tools - H/w, S/w) : Arduino IDE, STM32CUBE IDE, SmartRF Studio, CC1120 module, ESP32 Dev Module, STM32 microcontroller,

Objectives of the project : To create a Wireless sensor network using CC1120

Major Learning Outcomes : Knowledge of microcontrollers, Communication protocols

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment of my team was very good. The team members were very supportive. The projects were interesting

Academic courses relevant to the project : Internet of Things

Name: NAGAVELLY SAI SHARAVAN REDDY(2020AAPS0393H)

Student Write-up

PS-II Project Title: Inventory Management Software

Short Summary of work done during PS-II : I have done a website for Inventory management in the company. The website's main objective is to prevent the cumbersome and time taking manual paper work of the record of items in the inventory and the records of production team and inventory team issues/deposits.

Tool used (Development tools - H/w, S/w) : I used the tools of Django(python), javascript, HTML,CSS,VScode,Sqlite..

Objectives of the project : To make a working website for the company .

Major Learning Outcomes : What it takes to make a website and maintain it.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The company is a startup .So staff works very hard overtime which is inspiring.I am not expected to work overtime.I was helped by the reporting manager and mentor as well.They were neither too strict not too lenient.They ensured we worked hard but never discouraged when I committed errors in the project.They believed in making me learn new things instead of just project being done.The reporting managers were so understanding that I will cherish this as one of the best learning experience in my life.

Academic courses relevant to the project : DBMS

Name: ANSHUMAN MISHRA(2020AAPS0448H)

Student Write-up

PS-II Project Title: Development and testing of solutions

Short Summary of work done during PS-II : My work majorly included creating and maintaining a procurement Dashboard. I also provided small contributions in real time projects. The company deploys devices on field in real time which are remotely managed by the tech team and QA team from office. My work also included preparing standard operating procedures to onboard these devices with proper credentials. I also used to test Google forms which formed important parts of my work. A good chunk of work requires data manipulation in spreadsheets. Thus I was also involved in filtering out relevant data from google sheets.

Tool used (Development tools - H/w, S/w) : Google Data Studio, Qualix & Unified app(Proprietary softwares developed by AgNext), MS Excel, Jira

Objectives of the project : Dashboard making for business analytics, performing device onboarding in real time. Making reports covering various future aspects of work. Apart from these, other small contributions in live projects have also been made.

Major Learning Outcomes : Deploying, managing and maintaining a product in real time. Creating and maintaining an analytics dashboard in real time, how to make the devices ready for deployment on field. Using proper official communications.

Designing and drafting standard operati

Details of Papers/patents : No papers published

Brief Description of working environment, expectations from the company : The work environment in the organization is very decent in the organization. The people working here have great experience in thier fields. The colleagues have been helpful to me during the entire duration.

We used to work together, attend events at the office and do some stuff also. An important event hosted during this duration was a talk with the CEO of the organization which helped in understanding the organization from the point of view of a person in command. There are many things to learn in the organization as there are people of diverse academic backgrounds. All ups and downs formed important bits of learning. Overall it was a pleasing experience.

Academic courses relevant to the project : Technical Report Writing, Professional Ethics, Internet of Things, Communication Networks

Name: RAVAL PRIYANSHU VIBHASHKUMAR(2020AAPS1981G)

Student Write-up

PS-II Project Title: Crafting Secure and Dynamic UI Experience with Compose Magic

Short Summary of work done during PS-II : In the "Jetpack Journeys" project, I excelled in crafting a user-friendly Secure Login UI and a dynamic Dynamic Table Row (DTR) Field UI with Jetpack Compose. I skillfully integrated Firebase for secure login and harnessed Room Database for efficient local data storage. Overcoming challenges in dynamic UI rendering and adapting Room Database entities, I presented innovative solutions. This project significantly boosted my expertise in Jetpack Compose, Firebase, and Room Database, deepening my understanding of secure authentication workflows and dynamic UI adaptation. This hands-on experience not only strengthened my technical skills but also contributed to the progressive landscape of modern Android development practices.

Tool used (Development tools - H/w, S/w) : Android Studio Kotlin

Objectives of the project : "Jetpack Journeys" aims to leverage Jetpack Compose for Android development, creating a Secure Login UI with Firebase integration and a Dynamic Table Row (DTR) Field UI dynamically adapting to JSON lists. Scope: Implement a user-friendly login interface with Firebase authentication and Room Database. Showcase dynamic UI flexibility by

generating elements from a JSON list using Jetpack Compose and Room Database for local storage.

Major Learning Outcomes : Designed user-friendly interfaces for both the Secure Login and Dynamic Table Row (DTR) Field modules using Jetpack Compose

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work experience at AgNext was amazing. Also, the assigned team were supporting and approachable. HR team was great, and they can be talked directly and easily.

Academic courses relevant to the project : Object Orientation Programming

PS-II Station : AgNext Technologies , Mohali

Faculty

Name: Suparna Chakraborty

Student

Name: SHRIVATSA MAHESHWARI(2020A3PS0522G)

Student Write-up

PS-II Project Title: Customized User Solutions

Short Summary of work done during PS-II : I have worked on about 10-12 Projects during PS-2. They were mainly related to web development, app development and back-end tasks using Appscript. Also lot of minor tasks in google docs.

Tool used (Development tools - H/w, S/w) : ReactJS, Appscript, Javascript, Google docs, Git and Github, NodeJS, Express, Figma, Data structure and algorithms, Android studio, Kotlin, Java

Objectives of the project : Agnext had multiple clients and each client had a separate set of requirements tasks were mainly creation of web development projects and appscript projects to solve the user problems efficiently.

Major Learning Outcomes : 1. Learn how to troubleshoot common problems and contribute to the resolution of technical challenges.

2. Learn to work within project timelines, manage tasks, and collaborate with team members.

3. Develop a professional work ethic, including time managem

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was pretty decent. Regular office were we work side by side in a team. Entry exit were tracked via biometric scanner and an application that tracked location. Our work timings were 9 am - 6 pm Monday to Friday and first Saturdays of the month. There was no office pantry or something similar in the building. Lunch break was from 1-2 pm each day.

Academic courses relevant to the project : Computer Programming

Name: KUHOO GOYAL .(2020A8PS0456P)

Student Write-up

PS-II Project Title: Modeling Techniques for Rapid Chemical Quality Testing Solutions Using NIR Spectroscopy

Short Summary of work done during PS-II : I explored various machine learning algorithms that could work well with data from NIR Spectroscopy to predict the chemical parameters in agricultural raw materials, like their protein and moisture content. Some of the commodities I worked with are De Oiled rice bran and DDGS. I also learnt and implemented many data preprocessing strategies for the same objective.

Tool used (Development tools - H/w, S/w) : GitHub

Objectives of the project : 1. Scope for extensive research on CNNs to effectively work for regression problems involving NIR Spectroscopy 2. Inaccuracies in the existing model for one of their commodities, objective being to improve the model metrics by implementing other modeling Techniques and data preprocessing strategies

Major Learning Outcomes : 1.Data preprocessing techniques and analysis to gather useful insights
2. Machine Learning Algorithms

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment at Agnext was very learning-oriented. My mentor and my fellow colleagues were quite approachable. I learnt alot during 6 months of working with them.

Academic courses relevant to the project : Machine Learning, Deep Learning

PS-II Station : Akaike Technologies Pvt Ltd , Bengaluru

Faculty

Name: MONALI TUSHAR MAVANI

Student

Name: EKTA AGARWAL .(2020A5PS2045P)

Student Write-up

PS-II Project Title: AI Based health assistant development

Short Summary of work done during PS-II : Led the team of 5 as product manager for end to end implementation of an AI based health assistant , innvolves product development ,design,deployemt,sales and markeeting

Tool used (Development tools - H/w, S/w) : Lanchain , CV APIs, super computer

Objectives of the project : End to end implementation of an AI Based application in a chosen sector

Major Learning Outcomes : Team collaboaration, cross team handling, langchain

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : An absolute heaven for a product enthusiast who wanted to learn and grow while working on projects hands on . Highly supportive work environment which treats everyone with equality and each opinion is heard. Their expertise in AI services and extricating client base was so enriching to get exposure to the domain.

Academic courses relevant to the project : - BUSSINESS VALUATION , professional ethics , pharmaeconomics ,

PS-II Station : AlmaConnect - Nontech , Gurugram

Faculty

Name: Nithin Tom Mathew

Student

Name: T P CHANDRA CHUDAN .(2019B1A11030P)

Student Write-up

PS-II Project Title: Business operations with Almanews

Short Summary of work done during PS-II : Ensure and improve client and user satisfaction with Almanews product, Worked on automating different tasks concerning the ops team

Tool used (Development tools - H/w, S/w) : python, excel

Objectives of the project : Ensure and improve client and user satisfaction with Almanews product

Major Learning Outcomes : Ensure and improve client and user satisfaction with Almanews product

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Ensure and improve client and user satisfaction with Almanews product, Worked on automating different tasks concerning the ops team

Academic courses relevant to the project : none

Name: SAYANTAN KARMAKAR(2020A1PS1925G)

Student Write-up

PS-II Project Title: Business Analyst

Short Summary of work done during PS-II : Increased job product

Tool used (Development tools - H/w, S/w) : S/w

Objectives of the project : Increase a product

Major Learning Outcomes : Analysis, Consulting

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Nothing expected

Academic courses relevant to the project : none

PS-II Station : AlmaConnect - Tech , Gurugram

Faculty

Name: Nithin Tom Mathew

Student

Name: CHINMAY GUPTA .(2020A3PS0448P)

Student Write-up

PS-II Project Title: Creating new Softwares for AlmaConnect

Short Summary of work done during PS-II : Worked on development of AlmaConnect website, which is based on ReactJs for front end and Ruby on Rails for backend,

Tool used (Development tools - H/w, S/w) : VS code, ReactJs, Ruby on Rails.

Objectives of the project : 1. To work on the AlmaConnect website and to build features and solve bugs.

Major Learning Outcomes : Learned some industry experience working with the team. Working on actual projects help me learn a lot of things.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Working environment at the company is too good, all team members were quite supportive and helping.

Academic courses relevant to the project : OOPS, OS

PS-II Station : Altair , Bengaluru

Faculty

Name: Prakruthi Hareesh

Student

Name: SARVESH KARTHIC PIRAMANAYAGAM(2020A8PS1813P)

Student Write-up

PS-II Project Title: Development and Testing of Pacemaker Digital Twin

Short Summary of work done during PS-II : Scripted a ECG Signal generator using Altair Compose. Followed by Deployment of a ECG generation model in Altair Activate, which was then interfaced with a Pacemaker model created in Altair Activate which completed the virtual twin. The physical twin was based on Arduino UNO interfaced as an HIL with Altair Embed which implemented a heart rate sensor to detect user heart rate triggering my ECG generator and a pacemaker setup which generated a pulse using Arduino's inbuilt PWM generator. This was then connected to a Current sensor to monitor the remaining battery capacity of the physical Pacemaker Model.

Tool used (Development tools - H/w, S/w) : H/W - Arduino UNO, MAX30102 Heart rate sensor, MPU 6050 Accelerometer, current sensor. S/W - MATLAB, Altair Activate, Compose, Embed, Smartworks, RapidMINER, Python, Arduino IDE.

Objectives of the project : Create a complete and functional Digital Twin for a Pacemaker using Altair Products

Major Learning Outcomes : Understanding How to create and implement a complete and holistic embedded system like a Digital Twin from scratch and broaden my horizons to more interesting domains and work

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Wholesome working environment where everyone is approachable with questions and continually work towards improving themselves

Academic courses relevant to the project : Software for Embedded Systems, Digital Signal Processing, Neural Net and Fuzzy Logic, Internet of Things, Microprocessor and Interfacing

PS-II Station : Alts Wealth Pvt. Ltd. - Onsite , Bengaluru

Faculty

Name: Jyotsana Grover

Student

Name: TUSHARÂ .(2019B2A40219P)

Student Write-up

PS-II Project Title: Technical Developer

Short Summary of work done during PS-II : During my internship, I gained proficiency in React Native app development and Python backend programming. In React Native, I became skilled at creating cross-platform mobile applications, mastering components and navigation. On the Python backend, I learned to design robust RESTful APIs using Flask, manage databases effectively, and implement authentication mechanisms. Overall, this experience enhanced my problem-solving abilities and teamwork skills, preparing me well for future roles in app development.

Tool used (Development tools - H/w, S/w) : React Native , Python , AWS , Redis, MongoDB , Kafka , Docker

Objectives of the project : App Development

Major Learning Outcomes : During my Practice School, I gained proficiency in React Native app development and Python backend programming. In React Native, I became skilled at creating cross-platform mobile applications, mastering components and navigation. On the Python backend, I

Details of Papers/patents : It was a technical Internship

Brief Description of working environment, expectations from the company : The working environment during my internship was dynamic and collaborative, characterized by a balance of individual responsibility and teamwork. The company fostered an atmosphere of creativity and innovation, encouraging employees to explore new ideas and solutions. Regular team meetings and brainstorming sessions provided opportunities to discuss project progress, share insights, and address any challenges collectively.

Expectations from the company were clear and focused on both personal growth and contribution to the team's objectives. There was an emphasis on continuous learning and skill development, with access to resources such as online courses and mentorship programs. Additionally, the company valued initiative and problem-solving skills, empowering interns to take ownership of tasks and projects while providing guidance and support as needed.

Furthermore, there was an expectation of professionalism and effective communication, both within the team and when interacting with clients or stakeholders. Timely completion of assigned tasks and adherence to project timelines were essential, with an emphasis on quality and attention to detail. Overall, the company aimed to create a supportive and inclusive work environment where interns could thrive professionally and contribute meaningfully to the organization's goals.

Academic courses relevant to the project : Computer Programming

Name: [SANJAY .M .\(2020A1PS1694P\)](#)

Student Write-up

PS-II Project Title: Frontend Development with React Native

Short Summary of work done during PS-II : We were working on 2 products majorly. Work days: Monday-Saturday. Initially we got few days to learn the tech stack. Most of the learnings came through implementation.

Tool used (Development tools - H/w, S/w) : Javascript, Typescript, React Native

Objectives of the project : Implementation of Frontend features

Major Learning Outcomes : Learnt frontend development

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : We were working on 2 products majorly.

Work days: Monday-Saturday. Since it was an early stage startup, we had to pace up and complete each task by Friday evening. In addition to this we were supposed to give daily updates.

Academic courses relevant to the project : Nil

PS-II Station : ALW Lighting India Pvt. Ltd. , Bengaluru

Faculty

Name: Paramesw Chidamparam

Student

Name: PHANI KRISHNA SAI NAMALA(2020A4PS0670H)

Student Write-up

PS-II Project Title: 1. ISO BUSINESS MANAGEMENT SYSTEM (BMS) IMPLEMENTATION FOR ISO 9001:2015, ISO 14001:2015, ISO 45001:2018. 2. THERMAL HEAT TRANSFER SIMULATIONS ON HEATSINKS FOR DOWNLIGHTS & SPOTLIGHTS

Short Summary of work done during PS-II : For the first half of my internship I was working on implementation of ISO standard framework Business management system to help the company better monitor their operational activities. They were hoping to get certified for 3 standards and my role was to identify issues, make necessary plans for implementation of necessary changes and systems. We also hired a consultant to guide us through the project. So midway through my internship, we have finalized the consultant and decided that the main coordinator for the project be a employee of the company to better cater to consultant's and company's needs. So i was asked to find other project for the second half. The second half of the project was to make thermal simulation model to show the heat transfer characteristics of heatsinks used in downlights and spotlights to help them to predict the performance without physical prototyping. I have used ANSYS and Simscale for making the simulations and verified the models with experimental tests on existing heatsinks of the company.

Tool used (Development tools - H/w, S/w) : Solidworks, Creo, ANSYS, Simscale, SolidCAM, CNC Bending Machine

Objectives of the project : 1.To implement a business management system as per ISO standard framework. 2. To make a simulation model to simulate the heat transfer characteristics (Temperature distribution after reaching steady state) of heatsinks used in Downlights and spotlights.

Major Learning Outcomes : Thermal Simulations, ISO standards and requirements, Business Administration and Management

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The station was initially at Bangalore office but for training period I had to be at Ludhiana factory. But due to the project requirement my complete PS is done at Ludhiana. The environment here is very friendly and everyone from the engineering team are open and happy to assist you wherever you need them. The company expects that you find your own project rather than them allotting a project to you. So just make sure you convey your interests to your mentor before allotment of project.

Academic courses relevant to the project : CAD, Manufacturing processes, CAM

PS-II Station : Amazon Development Center , Bengaluru

Faculty

Name: Akanksha Bharadwaj

Student

Name: KOTHARI DARSHAN HARISH(2018B5A70873G)

Student Write-up

PS-II Project Title: Making a service X full CI/CD

Short Summary of work done during PS-II : I had to set up integration tests, load tests, static code analyser, security breach checks

Tool used (Development tools - H/w, S/w) : Git AWS Java

Objectives of the project : To fully automate the deployment pipeline of a service

Major Learning Outcomes : Gir, AWS, Java

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very chilled work environment. No restrictions on work timings and flexible WFH for upto 2 days a week

Academic courses relevant to the project : OOPS, DSA

Name: RIYANSHI AGRAWAL(2019B1A31077G)

Student Write-up

PS-II Project Title: Integration Tests Refactoring

Short Summary of work done during PS-II : Developed scalable and secure web applications using AWS and Java. I also contributed to code reviews, testing, debugging, and documentation of the software development lifecycle.

Tool used (Development tools - H/w, S/w) : Java,JSON,Scala,AWS(S3 and SQS), GSON

Objectives of the project : Rearchitecting Team's Integration Tests package to reduce code redundancy

Major Learning Outcomes : non-hierarchical config design, Memory optimisation, eliminating inter-test dependencies, JSON,JSONnet

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Cutting-Edge Technologies: Amazon is known for its innovation and use of cutting-edge technologies, providing SDEs with exposure to some of the most advanced systems and tools in the industry. Strong Team Collaboration: Amazon emphasizes a collaborative work environment, fostering teamwork and knowledge sharing among SDEs, contributing to a dynamic and learning-oriented culture. Career Development Programs: Amazon invests significantly in employee development, offering extensive training programs, mentorship opportunities, and a clear career progression path for SDEs. Competitive Compensation: Amazon provides competitive salaries and benefits packages, including stock options, ensuring that SDEs are rewarded for their skills and contributions. Flexible Work Arrangements: Amazon recognizes the importance of work-life balance and provides flexible work arrangements, including remote work options, allowing SDEs to maintain a better work-life integration.

Academic courses relevant to the project : 1.Object oriented Programming 2.C programming

Name: SWASTIK MANTRY(2019B1A71019P)

Student Write-up

PS-II Project Title: Functionality to Override Upstream Projections, track Hardware Orders & update Post Peak Throttling numbers

Short Summary of work done during PS-II : During my internship, I began by addressing crucial tasks, including fixing fleet URLs in the total override TPM feature and enhancing test coverage through unit tests. Subsequently, I made adjustments to Java lambdas in CDK, eliminating hardcoded indices in the frontend for milestone selection, and updating banners to communicate the lack of scaling support in the CN region. Notably, I introduced a significant contribution by creating a new event milestone, "Hardware Order," comprising sub-milestones for placing orders and approval. This aimed to keep users informed about the status of their host orders. I revamped the frontend for visual appeal, categorized pending approval host orders, and addressed bugs in the Input TPM Modal. Additionally, I refined the email template for 3 Gather Projection, implemented a throttling feature for descaling, and addressed issues during a month-long on-call period. My internship encompassed diverse aspects of software engineering, including bug fixes, feature development, UI/UX enhancements, and operational responsibilities.

Tool used (Development tools - H/w, S/w) : H/W: MacBook , S/W: Intelli J IDE, VS Code

Objectives of the project : To create features, fix bugs & be operational on-call for an an internal tool responsible for scaling of amazon's services during peak.

Major Learning Outcomes : Java, JavaScript, React framework for JS, Best coding practises, Continuous Deployment, Communication, Amazon's Leadership principles

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The working environment is fast paced supportive of agile development. Company will give you adequate time to learn the culture and to set up the development environment. However, it does expect you to deliver results with time. The working environment was friendly and the all team members would help you out when required.

Academic courses relevant to the project : Object Oriented Programming, Data Structures & Algorithms

Name: RITIK THAKUR .(2019B2A70878P)

Student Write-up

PS-II Project Title: Training Data Management System (TDMS)

Short Summary of work done during PS-II : Worked with ML Platform team (RBS-Tech org.) on the development of various microservices for a project whose objective is to become the leading provider of Machine Learning (ML) training data for the development of high quality ML models at Amazon. Created networking resources and essential infrastructure to facilitate calls from 'Native AWS' (NAWS) stack to 'Move to AWS' (MAWS) API. This integration from NAWS to MAWS holds significance for various use cases in multiple projects at Amazon, automating processes that were previously manual and resource intensive. Gained hands-on experience in Unit Testing, Git, and managing the CI/CD pipelines. Created API endpoints, API models and Data Access Layers. Worked with various AWS services - AWS Cloud Development Kit, AWS CloudFormation, AWS S3, AWS DynamoDB, AWS Lambda, AWS Step Functions & AWS AppConfig.

Tool used (Development tools - H/w, S/w) : AWS Services, IntelliJ IDEA

Objectives of the project : The project's vision is to establish itself as the one-stop machine learning (ML) training data provider, supporting the development of ML models at Amazon.

Major Learning Outcomes : AWS Services, Team Work, Communication, Java, Python, API Development, Git, TypeScript, Unit Testing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : There are so many teams at Amazon and working environment varies a lot from team to team. My team was really good in terms of work-life balance. Nobody expected to work during the weekends. Tasks were also given with realistic deadlines. There will be a midpoint review and a final evaluation at the end of the internship. PPO chances depend on many factors. Nowadays the focus is on cost-cutting so they didn't convert interns into FTEs irrespective of the work done.

Academic courses relevant to the project : Machine Learning, OOP

Name: HRIDAY KEDIA .(2019B2A70964P)

Student Write-up

PS-II Project Title: Spark EMR Profiling

Short Summary of work done during PS-II : The work revolved around Apache Spark. The team had a few services for which they used Spark to run jobs on heavy (100+) sized clusters. It was important that the configurations are appropriate as these jobs would incur a lot of cost. Work revolved around reading different papers and blogs to find ways to improve the efficiency of the job along with designing LLD and completing the proof of concept of consuming metrics from Spark Listeners.

Tool used (Development tools - H/w, S/w) : Apache Spark, AWS, IntelliJ

Objectives of the project : - Writing a script to get internal metrics for spark jobs running on AWS EMR. - Finding bottlenecks in the configurations of spark jobs and suggesting improvements

Major Learning Outcomes : - Apache Spark

- Testing Paradigms
- Designing LLDs

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The environment was welcoming and there was ample prep time given. Whole of the first month was spent on ramping up with an initial task. We were told from the first month to not expect a ppo due to the size of the team. Besides that, the manager and the team sat at close spaces and are open to discussion.

Academic courses relevant to the project : DSA, DBMS, OS

Name: SAKSHAM MADAN .(2019B2A80208P)

Student Write-up

PS-II Project Title: Amazon-Internal Service Migration

Short Summary of work done during PS-II : I created the backend logic for two prominent pages on Merchant Dashboard in the new Service, using frameworks like Spring MVC, Java, Junit5 etc. Did that by classifying the backend logic in terms of several layers of Accessors, facade and the main Controllers. Performed E2E API testing of the controllers. I also made modifications on the UI part in the existing pages, using JSP, JS and CSS. Onboarded the CSRF token generator for the new service, to enhance the overall security of the service and later integrated the token on each page present on Merchant Dashboard.

Tool used (Development tools - H/w, S/w) : Java, Spring MVC, AWS, DynamoDB, JUnit5, JavaScript, JSP

Objectives of the project : I worked on an Amazon-Internal service, based on Horizonte v5.1 (extension of Spring Web MVC framework). The service hosts post-Onboarding merchant use cases and has a set of Controllers. The Horizonte v5.1 is on its deprecation path, and a newer version 5.3 is already available, so the usecases of this service, need to be migrated to an another service which is running on the latest version of Horizonte, along with some modifications in functioning of those controllers.

Major Learning Outcomes : 1. Used frameworks like Spring MVC, Java, Junit5 and Servlets to create the backend logic of the pages in new service.
2. Used RDE, AWS CloudWatch for E2E API testing.
3. For frontend UI based changes used technologies like JSP, JS and CSS
4. Learnt abo

Details of Papers/patents : The project was related to Software Development Domain and the adopted migration strategy was documented in the design doc closure (Amazon-Internal).

Brief Description of working environment, expectations from the company : The people at Amazon were really supportive and helping in nature. Strong emphasis was always made to first understand the problem and use case and then move to the coding part. Biweekly connects with Manager and daily connect with Mentor was mandatory for my team. Code Reviews were given a great importance, as they are the main mechanism to find out the issues in the code. We were expected to be proactive and hence take ownership of the tasks that are assigned.

Academic courses relevant to the project : Object Oriented Programming (OOP)

Name: DIVYAM AGARWAL(2019B2A81072G)

Student Write-up

PS-II Project Title: Input feature enhancement and operational stabilisation

Short Summary of work done during PS-II : Across my projects, I've undertaken diverse tasks aimed at improving operational efficiency and reliability within the INPUT Service. My work spanned various areas, including the development of Ops Script Pipelines, addressing Fair Usage Limit (FUL) breaches, documentation enhancements, code integrations, and selective message redriving scripts. I established CDK packages and pipelines to execute operational scripts on EC2 instances, enabling seamless deployment of custom Java scripts. Moreover, I enhanced workflows to generate SIMs upon identifying breaches at invoice/line-item levels, addressing carrier-related DDOS threats. I also rectified broken links in RDE INPUTService documentation and integrated the SIM Creator tool into TFSNotifierLib for improved cross-team collaboration. Additionally, I developed scripts integrated with SQS Queues to selectively redrive large payload messages, ensuring efficient message processing. Alongside, I resolved exceptions, optimized exception handling, and facilitated configuration updates without manual interventions, enhancing system reliability and functionality. I took on tasks to refine INPUT Service, improving efficiency, minimizing risks, and enhancing overall performance.

Tool used (Development tools - H/w, S/w) : Java, Spring Framework, Amazon Web Services

Objectives of the project : Ops Script pipeline with an existing package, Ops Script pipeline with custom scripts, Create SIM upon invoice/lineitem level breach to CS team, Fixing the RDE INPUTService documentation, Shifting the SIM Creator Tool from INPUTService to TFSNotifierLib, Develop script to selectively re-drive large payload messages, Remove `DuplicateInvoiceNumberException` from INPUTService.getInvoiceHeader() operation, Executing MCM (Modeled Change Management) on the behalf of the team, Solving issue with Deleting SDI/EDI invoices, Retrying firehose runtime exceptions, Moving INPUTDoubleLoadFixLaunchConfigProfile to CDK, OEScripts package using Lambda/EC2/ECS, Adding unit tests to ATCAAttributesEnricher, Handling throttle config updation in S3

Major Learning Outcomes : I mastered Java, Spring Framework and using AWS Resources during my time at Amazon

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Insist on the highest standards, Deliver Results, Invent and simplify, Learn and be curious

Academic courses relevant to the project : Computer Programming, Object Oriented Programming

Name: SRI RAM BADALGAMA(2019B2A81119H)

Student Write-up

PS-II Project Title: QSR Configuration Viewer and Editor

Short Summary of work done during PS-II : I have successfully completed 2 projects. My first project is to design and implement a plugin facilitating smooth reading, editing, searching, and updating of JSON files stored in AWS S3(Simple Storage Service). I have developed an intuitive UI using React to display JSON data as text fields, ensuring user-friendly interaction, including nested data with proper indentation, and advanced search capabilities. Finally, integrated a backend component featuring APIs specifically tailored for S3 file operations, allowing effortless interaction with stored data. Aim of my second project was to enhance and automate a specific data pipeline from AWS S3 to AWS open search. For this, I have revamped EMR jobs in Scala to eliminate manual steps, optimize data transfer from S3 to OpenSearch, and implement job metadata inclusion in DynamoDB. I have also created a Trigger Job API utilizing an internal service to execute EMR jobs, resulting in significant cost reduction and developed UI for easy data uploads, allowing users to independently select jobs and export data from S3 to OpenSearch in a self-service manner.

Tool used (Development tools - H/w, S/w) : React, Java, Scala, AWS

Objectives of the project : Building a JSON Editor for AWS S3 and S3-to-OpenSearch Data Pipeline Enhancement

Major Learning Outcomes :

1. Learnt to write readable, error-free, scalable code
2. Basics of AWS
3. API development, Scala, React

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Team members were understanding, helpful, supportive.

Academic courses relevant to the project : FODSA, OOPS, OS

Name: SADASHAY KANUNGO(2019B3A70248G)

Student Write-up

PS-II Project Title: Enhancements in Financial Reconciliation and Reporting Framework

Short Summary of work done during PS-II : Contributed to the migration of Sherlock - Financial Reconciliation framework to SOX compliant architecture. Utilized AWS EMR, S3, and Athena. Increased the compatibility of Watson - Reconciliation Monitoring and Reporting solution by implementing improvements in AWS Lambda functions. Integrated Tickety API service into Watson, eliminating the need for extra hardware and reducing IMR costs by \$120 per month. Set up automated data reporting using AWS Quicksight Dashboards with interactive filtering interfaces for better insights

Tool used (Development tools - H/w, S/w) : AWS (EMR, Lambda, Athena, Step Function), IntelliJ, Java, Scala, SQL

Objectives of the project : Contribute in migration of Financial Reconciliation Framework re-architecture project, Design and implement changes in Reporting Framework to make it

compatible with new architecture, Integrate internal API in Reporting Framework, other ad hoc tasks to help the team in ongoing projects

Major Learning Outcomes : Amazon Web Services, Scala, CI/CD, API design, Documentation

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Amazon is a great place to work and learn. My team was always helpful and encouraging. Interns are given good projects with real impact. The overall experience is very rewarding.

Academic courses relevant to the project : OOP, DBMS, Cloud Computing, Principles of Programming Languages

Name: MAMIDI RATNA PRANEETH(2019B3A70490H)

Student Write-up

PS-II Project Title: Andromeda Enhancements

Short Summary of work done during PS-II : Enhanced the existing error management system by adding new error types and designing a mechanism to sideline relevant crawls into the error bucket and also integrating mailing system into various internal packages.

Tool used (Development tools - H/w, S/w) : Spring boot, Java, Git, Harlogs, Mockito

Objectives of the project : Enhance the existing crawling and error management system

Major Learning Outcomes : Working in a Team, getting to know a lot about amazon internal crawling tools, team error management system and about amazon web services.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Chill team, very helpful teammates, mentor and manager. Everyone is under the misconception that Amazon has pretty bad work life balance but it is highly team specific and my team was pretty chill and had good WLB.

Academic courses relevant to the project : Object oriented programming, Database management system

Name: [Shreyas Athreya\(2019B3A70494G\)](#)

Student Write-up

PS-II Project Title: Adding Feature Enhancements to Detail Page Canaries + Changes in the MRA DQ Dashboard + COE Action Item Resolution

Short Summary of work done during PS-II : During my internship with Amazon, the pre-midsemester phase involved significant work within the Customer Behavioral Analytics (CBA) Organization. In the Foundational Data Intelligence Team, I undertook two projects. The first addressed a COE Action Item related to Lacus, focusing on preventing corrupted partitions and data loss during routine data deletion processes. Measures were implemented to detect corruption, prevent failures, and enhance overall data protection, ensuring compliance with privacy laws. The second project involved collaborating with senior managers and team members to improve an internal Amazon QuickSight Dashboard, successfully completing P0 priority tasks related to tracking Data Quality (DQ) tickets. In the post-midterm phase, I transitioned to the BUYX-ACE team within the Buying Experience Organization, responsible for Amazon's Detail Page. The final project focused on enhancing the Detail Page's canaries, incorporating features like scheduled ETL jobs for dynamic product IDs, modifications to the canary AWS Lambda function's sampling logic, granular level metrics based on product categories (WDGs), and support for various device types and user states. The successful completion of this project

contributed to the continuous improvement of Amazon's Detail Page functionality, ultimately enhancing the overall buying experience for customers.

Tool used (Development tools - H/w, S/w) : AWS CDK, AWS SDK, Scala Typescript

Objectives of the project : Resolve COE Action Item, Resolve Bugs in the MRA DQ Dashboard, Improve Canary Testing

Major Learning Outcomes :

1. Scala, TypeScript
2. AWS Technologies
3. Scheduling ETL and SQL Jobs
4. Node and Node Packages
5. Internal Amazon Tools

Details of Papers/patents : -

Brief Description of working environment, expectations from the company :

1. Fast Paced and Quick on Feet
2. In alignment with Amazon Leadership Principles. See Online, very important and relevant to every team's culture
3. High Accountability and High Ownership
4. Very Supportive

Academic courses relevant to the project : DSA, OOP, DBMS, CN, TRW

Name: ANIMESH BHARGAVA .(2019B3A70545P)

Student Write-up

PS-II Project Title: Data Ingestion Storage and Latency Optimization

Short Summary of work done during PS-II : I implemented the conversion of data storage format in system pipelines for my team, from the existent TSV to Parquet format in the beta environment. I completed all the tests for each pipeline in the beta level and pushed the code for prod deployment. Based on the results obtained, Parquet files take up on an average 7.8 times less storage compared to TSV files. The overall improvement in storage can lead to annual savings of 50-60% of S3 costs, i.e., between \$20K to \$30K for the team, for a consolidated overall annual expenditure of \$45K for S3. Moreover, Loading the parquet data into Redshift requires 27% less time on average. The improvement in latency is much higher for larger data sets, with test data showing upto 40% improvement.

Tool used (Development tools - H/w, S/w) : Java, Spring Beans, AWS S3, SNS, SQS, Redshift, DynamoDB, Step Functions, IntelliJ IDEA, Git

Objectives of the project : Improve latency and storage incurred in ingestion and processing of data in system pipelines

Major Learning Outcomes : Working on the project helped me learn about working and contributing to a big corporate organization. I learnt about efficiently writing code and adding features in a large codebase and testing it in various stages using unit and integration testing.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment provided by the company was very welcoming, warm and conducive to work and deliver results. The team environment specifically promoted helping each other and also giving our suggestions on improvements that can be made. It promoted collaboration and co-operation in a way that helped in the growth of everyone while completing projects on time. There were several team outings that fostered team bonding and provided rejuvenation at periodic intervals, helping the team to work with much more vigor and enthusiasm.

Academic courses relevant to the project : Data Structures & Algorithms (CS F211), Database Systems (CS F212), Object Oriented Programming (CS F213), Operating Systems (CS F372), Computer Networks (CS F303), Cloud Computing (CS G527), Software Engineering (IS F341)

Name: AKSHAY KRISHNA D(2019B3A70551G)

Student Write-up

PS-II Project Title: API Migration

Short Summary of work done during PS-II : The primary focus of this internship is to successfully assist in the migration of APIs from an older legacy service to a newer, upgraded service that is being managed by our team. The legacy service was responsible for performing multiple tasks to integrate financial technology. Over time, the service had become monolithic in nature and difficult to manage. As a result, the functionalities of the same is being moved to other candidate services. Until now, the internship involved migrating client applications that called the legacy to the newer service. The next phase of the internship involves taking the older APIs of the legacy service and forging a more optimized version in the new service.

Tool used (Development tools - H/w, S/w) : IntelliJ, Java, AWS, Quip, Mockito, PowerMock, EasyMock, Ruby

Objectives of the project : 1. Migration of client services to a new service. 2. Creating new APIs as a part of migration process.

Major Learning Outcomes : Improved documentation skills, better code quality, coding patterns such as ACBDA, Backend API architecture and development, Unit testing, integration testing, AWS applications such as DynamoDB, CloudWatch, CloudFormation, IAM.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Task driven work environment. You are expected to complete your tasks according to the deadline. Blockers are to be solved as soon as possible by connecting with seniors. Sometimes, work hours may stretch late in order to connect with US based teams.

Academic courses relevant to the project : OOP

Name: ISHAN KOTHARI(2019B3A70578G)

Student Write-up

PS-II Project Title: Data Fetcher Tool

Short Summary of work done during PS-II : I have created a Data Fetcher Tool (DFT) to retrieve historical data on demand for model training and other use cases. The tool also supports filtering based on parameters provided by the client, i.e., it will enable clients to query evaluation outcome data for a specific time range, with filters for required features.

Tool used (Development tools - H/w, S/w) : Software - Java, TypeScript, Apache Flink

Objectives of the project : To create service that will help transfer data from one storage to another faster than it is presently being delivered. This will help the machine learning team perform evaluations more efficiently and faster.

Major Learning Outcomes : Learnt about various amazon resources like - AWS CDK, AWS Lambda, AWS Kinesis, AWS Cloudshell, AWS Cloudwatch, and Apache Flink, AWS S3, AWS OpenSearch, AWS ElasticSearch. I also strengthened my concept of OOPs and git.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Amazon will expect you to put in the effort. They donot have any specific number of hours that you have to work for, but instead you will have your weekly, bi-weekly, and entire project deliverables which you will need to complete and will be requiring a lot of effort, but the amount of work which you will do and the amount of learnings you will gain will be almost equal to that of a startup.

Academic courses relevant to the project : Object Oriented Programming

Name: B Revanth Reddy(2019B3A70587H)

Student Write-up

PS-II Project Title: Crawling Mechanism

Short Summary of work done during PS-II : Developed optimised crawling mechanisms. Used ML to develop sentiment analysers for article titles.

Tool used (Development tools - H/w, S/w) : Eclipse IDE

Objectives of the project : To develop optimal crawling mechanismd

Major Learning Outcomes : OOPS

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Good working environment

Academic courses relevant to the project : OOPS, ML, DL

Name: VAIBHAV PRABHU .(2019B3A70593P)

Student Write-up

PS-II Project Title: Matcher Feature Development and Launch Support

Short Summary of work done during PS-II : As my ramp-up task, I had to create a new Monitoring Stack for a new service, i.e., a stack for appropriate alarms and dashboards on important metrics; streamlining service observability. This was to be done through AWS CDK. I

also introduced distributed rate limiter across services, integrating with both Guice and Spring for dependency injection. I implemented caching for some of the API calls with the help of Google Guava. I migrated logs for a service from an Amazon archival log solution to AWS Cloudwatch using a low-cost ingestion path. There were many more miscellaneous tasks as well requiring Java, AWS CDK with TypeScript.

Tool used (Development tools - H/w, S/w) : Java, TypeScript, AWS CDK, Guice, Mockito.

Objectives of the project : Develop new features for a new upcoming service and launch the service successfully.

Major Learning Outcomes : As I continued to gain experience during my internship, I found that my code quality improved significantly as a result of consistently incorporating and applying industry best practices. This evolution in my approach reflected a growing proficiency and r

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : In my team, we cultivated a highly professional working environment characterized by effective collaboration and communication. The work-life balance (WLB) was notably favorable, outperforming other teams within Amazon. Standard working hours were from 11 AM to 5 PM, providing a structured framework for daily activities. However, it's important to note that certain days might demand additional effort due to project deadlines.

To foster better teamwork and communication, we were required to work from the office for a minimum of three days per week. This in-person collaboration facilitated real-time discussions and enhanced the overall efficiency of our projects. While the standard working hours provided a predictable routine, the team demonstrated flexibility during peak work periods, ensuring that deadlines were met successfully.

Academic courses relevant to the project : Computer Programming, OOP, DSA, OS.

Name: KULKARNI PARTH PRASAD(2019B3A70706H)

Student Write-up

PS-II Project Title: Experiments to improve ML model performance using State Of The Art Techniques

Short Summary of work done during PS-II : My internship can be divided in 3 major projects. First project was to experiment with various categorical variable encoding techniques and intergrate the best performing technique with the model training pipelines. Second project was to create model training pipelines which would enable the user to train few shot learning on the given dataset. Third project was to integrate label cleaning feature in the preprocessing part of the model training pipeine. Label cleaning was to be implemented such that it would work for large datasets (distributed)

Tool used (Development tools - H/w, S/w) : Amazon SageMaker, Python, Jupyter, Amazon S3, Amazon ECR

Objectives of the project : Enhancing ML model training pipelines

Major Learning Outcomes :

1. Amazon SageMaker
2. ML model training & inference process
3. Categorical variable encoding techniques
4. Label cleaning techniques
5. ML with large datasets (incremental / distributed training / processing)

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : You are expected to be the complete owner of the projects you take up. Amazon leadership principles need to be demonstrated. Documentation of all the details is expected and encouraged.

Academic courses relevant to the project : Object oriented programming, machine learning, distributed computing

Name: SHASHWAT ANAND(2019B3A70718H)

Student Write-up

PS-II Project Title: Building scalable services for simulations and reporting

Short Summary of work done during PS-II : Throughout the internship, I actively contributed to a trio of projects, each presenting unique challenges and opportunities for growth. In one, I played a pivotal role in developing essential components, including database structures and automation processes, ultimately streamlining complex simulation procedures. Another project required adept problem-solving skills to address intricate technical issues and optimize operations, resulting in significant cost savings. In a third endeavor, I successfully automated critical processes, reducing root cause analysis time and bolstering overall operational efficiency. These experiences collectively elevated my technical proficiency, sharpened my problem-solving acumen, and nurtured skills in project management and financial optimization, providing a comprehensive and impactful learning experience.

Tool used (Development tools - H/w, S/w) : IntelliJ, Quip, Chime, Sage, Internal Search, Stack Overflow, AWS, Java, Smithy, TypeScript

Objectives of the project : The objectives of the internship project encompass the development of pivotal components for a new platform service. This includes creating and integrating Database tables, queues, notifications, and lambdas, with a specific emphasis on streamlining the simulation process to significantly reduce processing time. Additionally, the project aims to extend responsibilities to successfully onboard the first client and manage notifications efficiently, contributing to a positive user experience. In a new service Integration project task, the primary goals involve addressing and resolving hard-coded cluster ID issues to optimize cluster management. The project also seeks to enhance operational efficiency by introducing a new state to the state machine for recognizing and marking failed jobs. Furthermore, the overarching objective is to streamline operations, ultimately reducing on-call response time and realizing

annual cost savings of \$2000. These targeted objectives guide the intern in addressing specific challenges related to cluster management and operational optimization within the organization.

Major Learning Outcomes : 1. Technical Proficiency:

- Developed a strong understanding of creating and integrating crucial components such as Database tables, queues, notifications, and lambdas. Gained proficiency in streamlining simulation processes for enhanced efficiency.
- Acq

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment during the internship was dynamic and collaborative, fostering a culture of innovation and continuous learning. Expectations from the company centered on proactive engagement with assigned projects, demonstrating a keen ability to problem-solve, and contributing to the overall success of each initiative. The company emphasized a hands-on approach, encouraging interns to take ownership of tasks, seek innovative solutions, and collaborate effectively with team members. Clear communication and adaptability were key expectations, as projects often required navigating through new technologies and addressing unforeseen challenges. The company fostered an environment where interns were expected to not only contribute technically but also actively engage in the learning process, ensuring personal and professional growth.

Academic courses relevant to the project : Database Management, Object Oriented Programming, Data Structure and Algorithm, Programming language, Operating Systems, Software Engineering and Cloud Computing

Name: [SUSHMITHA SATHISHA NAYAK\(2019B3A80600G\)](#)

Student Write-up

PS-II Project Title: Address Personalisation and Validation

Short Summary of work done during PS-II : The work I did under my team involved understanding the gating of changes behind weblabs and how they are used to measure customer responses and effects. This is then used as criteria for launch. I removed this gating with weblabs for features with successful launches. Further I worked on personalising the address form of an export country in a marketplace as part of a larger project that aimed at providing more accurate address info. This simultaneously improves customer experience as well as reduces concession losses. I built integration tests into the pipeline for the rest of the countries under the project so as to ensure that no scenario is missed when testing before weblab gating. Under address validation, in order to execute the regular task sequence of data updation with indices I created Distributed Job Scheduling Flows. This automated the entire process.

Tool used (Development tools - H/w, S/w) : Amazon Web Services, Java, Python, IntelliJ Idea, Git

Objectives of the project : To launch address personalisation and validation features to export countries. Testing various processes before the launch of the project. Develop a thorough understanding between various processes and services and put this understanding into practice.

Major Learning Outcomes : 1. Learnt to effectively collaborate and pool resources in a team. 2. Learnt about scalability and background processes. 3. Learnt about cross-team division and communication 4. Embellished software skills and improved code documentation, styling, and qua

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment in my team was quite comfortable. We had a hybrid policy where it was compulsory to work in the office three days a week. There are focus rooms and discussion rooms if you wish you work better by yourself. My team had regular updates and standups to discuss everybody's work and progress that day. This motivated progress and also helped me understand what the entire team was doing and know more about the overall process. The company expected deliverables, and my team was well considerate of my position but also laid out their expectations clearly. I worked at a comfortable pace mostly throughout my tenure.

Academic courses relevant to the project : Object Oriented Programming, Database Management Systems

Name: YASH SANGHI(2019B4A30758P)

Student Write-up

PS-II Project Title: WBS Onboarding using sandfire

Short Summary of work done during PS-II : Worked on 5 different projects, 1 st was introducing a new payment method in Amazon shopping app in EU region, other was the main where we had to develop entire data deletion design and code it to delete customer information from Amazon database in the EU region, this was done in python using api calls and s3 buckets, sns calls, lambdas, Athena, etc

Tool used (Development tools - H/w, S/w) : Python, Java, javascript, yaml

Objectives of the project : Data deletion

Major Learning Outcomes : AWS services

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very professional working culture with proper documentation of each and every aspect of code related to work, most services are internal to Amazon. Expected brief knowledge of DSA and strong Java, python concepts. Mostly depends on the team one is allotted to, timings and working hours were very flexible for me, but sometimes had to work late night till 5 am in the morning as I had to communicate with other teams in different time zones.

Academic courses relevant to the project : DSA, OOP, OS

Name: RAGHAV GUPTA(2019B4A30927H)

Student Write-up

PS-II Project Title: Model Monitoring

Short Summary of work done during PS-II : I developed the infra as code for the project in which I had two storage spaces. Both of them were buckets. After that I was developing a SQS service between those buckets so the import file would be arriving in input bucket and through the SQS trigger would be generated that will pass through to my lambda and the output will be given to the S3 output bucket . in my lambda functionality, I had implemented metric calculation to calculate accuracy, precision for the model response and audit decision

Tool used (Development tools - H/w, S/w) : IntelliJ, Aws and cdk

Objectives of the project : To develop a model evaluation or comparison system that assess is the model and provides a comparative analysis as to how good the model is performing with respect to others

Major Learning Outcomes : Object, mapping, testing, including integration testing and unit testing , AWS resources like buckets, roles logs, and quick side dashboard , many concepts of Java-8 and CDK.

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : It was a very hospital environment in which I was exposed to many resources and was under continuous guidance of my mentor and all the rest of the team members. I was getting constant support from my buddy and that was the only reason apart from my hard work that I was able to accomplish my goal on time.

Academic courses relevant to the project : Nil

Name: SHREYAS PANYAM .(2019B4A70183P)

Student Write-up

PS-II Project Title: Deprecation of legacy fintech service

Short Summary of work done during PS-II : Worked with DynamoDB, CloudWatch, S3. Used JUnit5, Mockito for unit testing. Docker for integration testing. Got to know good coding practices and design patterns. Migrated APIs, configured throttling limits, added tests for untested use-cases.

Tool used (Development tools - H/w, S/w) : Java, AWS, IntelliJ. Dependencies include JUnit, Mockito, Lombok. Mostly worked on S3 and CloudWatch on AWS.

Objectives of the project : Migration of service functionality from older to newer fintech service

Major Learning Outcomes : Industry standards, corporate culture, good practices, AWS, Beta testing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working hours are very flexible. As long as you attend the daily stand-up, there is no particular expectation to be on time in office (meetings may be scheduled which are exceptions). AGILE is followed, so you have to complete certain number of tasks in 2 week windows. As long as the work is completed, there is no expectations on hours spent in office however to meet deadlines it might be necessary to stay late in office on some days. There might be a need to interact with US teams because of which meets can be occasionally scheduled at night (exceptional case not very common). You

are expected to do your due diligence before reaching out to team members in order to ask the right questions so that they can guide you efficiently.

Academic courses relevant to the project : OOP, DSA

Name: [MANAS AGARWAL\(2019B4A70198G\)](#)

Student Write-up

PS-II Project Title: Unified Invoicing Event Tracker

Short Summary of work done during PS-II : The project's primary objective was to enhance the TFS UI Portal's functionality, specifically focusing on providing a comprehensive view of the LSM flow for the developers during the UAT for Unified Invoicing Clients (AFV). The existing portal displayed information like Charge Code, Amount, and Execution Status of the LSM, and our goal was to augment this with additional tax details such as tax ID, tax type, and tax amount corresponding to charge codes. Additionally, we aimed to incorporate invoice-related details, enabling tracking of LSM flow, invoicing status, and associated Invoice ID, Batch ID, and closure dates.

Tool used (Development tools - H/w, S/w) : React.js, JavaScript, Aws Tools

Objectives of the project : To add Tax and Invoice related details on a UI Portal

Major Learning Outcomes : Throughout my internship at Amazon, I significantly advanced my proficiency in AWS tools, gaining a comprehensive understanding of services such as S3, DDB, Lambda, Athena, Glue, ElastiCache, SQS, etc. Strengthening my SQL skills enhanced my ability to ma

Details of Papers/patents : No papers/patents were made.

Brief Description of working environment, expectations from the company : Working Environment:

Amazon works in a collaborative and dynamic environment. The project involves constant interaction with different teams and stakeholders, emphasizing seamless communication and coordination.

Expectations from the Company:

Amazon expects a high level of commitment and expertise from its team members. The company values proactive problem-solving, innovation, and a strong sense of ownership. Team members are anticipated to contribute to the project's success by efficiently addressing challenges, meeting deadlines, and ensuring the reliability and efficiency of the invoicing process. Clear documentation and effective communication are essential for achieving project goals. Overall, the company expects a dedicated and collaborative effort to drive the project towards successful outcomes.

Academic courses relevant to the project : Data structure and Algorithm, OOPS

Name: VINAYAK SINGH .(2019B4A70606P)

Student Write-up

PS-II Project Title: Automatic S3-Main Queue Redriving

Short Summary of work done during PS-II : Used multithreading at the various stages (fetching messages, sending messages) to speed up the process and make better use of resources. Created and scheduled a new job on the DJS to automate the process, with various arguments such as type of error messages to be redriven, particular main queues to be repopulated etc.

Tool used (Development tools - H/w, S/w) : Java, Spring, AWS, Json

Objectives of the project : To add the functionality to automatically redrive failed messages from a storage location back to the queues they were originally from, and to develop an error report to be emailed to the team email address for the same

Major Learning Outcomes : I learned how development cycles work at a big corporation like Amazon, and how a small team within that system works on specific tasks and own services end to end.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : A relaxed working environment,

Academic courses relevant to the project : OOP, Operating Systems, DSA

Name: TYAGI KUSH PRAVEEN(2019B4A70689G)

Student Write-up

PS-II Project Title: Software dev - working in cmt map tech system

Short Summary of work done during PS-II : Sotdware dev, backend development , debugging of code and deploying code

Tool used (Development tools - H/w, S/w) : Java, intellij

Objectives of the project : Sotdware dev, backend development , debugging of code and deploying code

Major Learning Outcomes : Software dev

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Hard work culture long hours

Academic courses relevant to the project : Oop

Name: SATVIK OMAR(2019B4A70933H)

Student Write-up

PS-II Project Title: Astrikos Full CD

Short Summary of work done during PS-II : Automated Promotion for the Deployment Pipeline of Astrikos - an Internal Library at Amazon, by converting the pipeline to Full CD (aka Full Continuous Deployment). The project involved Integration Testing, Load Testing and working extensively with Amazon Web Services (AWS) and Apache Spark. Worked extensively with AWS CDK to create useful CDK Constructs.

Tool used (Development tools - H/w, S/w) : IntelliJ, Scala, Spark, JUnit, ScalaTest, AWS, Hydra, Java, TypeScript

Objectives of the project : To achieve Full Continuous Development (Full CD) for the development pipeline of Astrikos - an Internal Library at Amazon. This involved writing integration tests, load tests and setting up alarms and rollbacks.

Major Learning Outcomes : Learnt many new technologies which includes Scala, ScalaTest, Spark, Google Guice, JUnit, Amazon Web Services (AWS)

Details of Papers/patents : NIL

Brief Description of working environment, expectations from the company : The working environment at Amazon is really good with top-class facilities to make it as comfortable as possible for employees to work. The company set realistic expectations for the interns with sufficient resources and ramp-up projects to upskill the interns. The project was very good and fruitful to the learning and career development of interns.

Academic courses relevant to the project : Deep Learning, DSA, DBMS, Computer Networks

Name: SHASHANK PRATAP SINGH(2019B4A70956H)

Student Write-up

PS-II Project Title: Asynchronous Ingestion of Evaluation data

Short Summary of work done during PS-II : My project involved creating a very basic Apache Flink application with some specific sources and sinks, and then migrating some features an old service had to it. I also had to do end to end testing on the entire flow to remove any bugs and add anything that was left. In the end, I had to stress test the application to find out how many KPIs were needed for handling the production traffic. When that was all done, I slowly pushed the code into production.

Tool used (Development tools - H/w, S/w) : Java, SQS, S3, CDK, Cloudformation, ES, DDB, Kinesis

Objectives of the project : Creating a data stream handling application to store data in various storage systems

Major Learning Outcomes : These 6 months have helped me gain a diverse skill set, including expertise in AWS CloudWatch for monitoring and logging, a lot of AWS services (like SQS, S3, DDB, Kinesis, ES), writing unit tests, handling data streams, AWS service integration, writing q

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The whole team was very supportive and helpful throughout my term. I had regular interactions with my manager and my mentor to discuss progress and blockers, if any. They helped me wherever I faced problems. Overall, it was a very positive working environment.

Academic courses relevant to the project : OOPs, DSA

Name: PUSHPAM SINGH(2019B4A71272H)

Student Write-up

PS-II Project Title: rank based replacement

Short Summary of work done during PS-II : Using Spark and Scala, developed a package with solid design principles to eliminate existing SQL-based job. • utilized Google Guice to provide support for dependency injections and also implemented unit tests and functional tests to ensure code reliability. • The code is responsible for processing 800GB of data daily to generate and deliver Amazon's entire shipping data for North America and EU markets.

Tool used (Development tools - H/w, S/w) : scala, spark, google guice

Objectives of the project : data engineering

Major Learning Outcomes : corporate communication, coding principles

Details of Papers/patents : nill

Brief Description of working environment, expectations from the company : its was relatively relaxed and smooth

Academic courses relevant to the project : data structures and algo, data base management

Name: MOHIT AGRAWAL(2019B4AA0918H)

Student Write-up

PS-II Project Title: Generic Query Layer UI development

Short Summary of work done during PS-II : This project encompassed multiple goals, each contributing to the overall completion of the query layer platform. The structured approach involved several key steps: 1) Integration Tests for Generic Query Layer APIs: The initial phase focused on developing comprehensive integration tests for Albus APIs to ensure robust functionality and seamless interactions. 2) User-Friendly Frontend Creation: Utilizing React with TypeScript, I crafted a user-friendly frontend by seamlessly integrating two distinct design systems: Polaris and Material UI. 3) DAG Diagram Creation Module: The primary emphasis was on building an intuitive User Interface (UI) for the Directed Acyclic Graph (DAG) diagram creation module. Users could visually construct DAGs by adding nodes to the diagram and establishing connections between them using links. 4) Node-Specific Forms: Implemented forms for each node in the DAG, allowing users to input relevant data for individual nodes. 5) Form Validations: Validation mechanisms were incorporated into the forms, guiding users in accurately entering data and displaying error messages to assist them in inputting the required information correctly. 6) DAG Validations: Validation mechanisms were integrated into the diagram to verify node connections, restrict the number of inputs allowed for a node in the DAG, and provide informative messages to facilitate users' seamless creation of the DAG. 7) Enhanced Features in DAG Module: Implemented essential features such as zoom-in and zoom-out functionality to enhance the flexibility and usability of the graphical interface. Enabled the deletion of nodes using the backspace button on the keyboard, streamlining the user experience and providing a convenient method for node removal. Incorporated a graphical background to the diagram, enhancing the user interface's visual appeal and overall aesthetics. 8) Enhanced Features in Forms: Developed a feature enabling users to upload CSV files in the filters, facilitating the seamless provision of many values. 9) Data Transformation to JSON Format: The focus shifted to converting the entered data into the required JSON format, facilitating seamless backend data querying.

Tool used (Development tools - H/w, S/w) : React, Typescript, Polaris(Cloudscape), Material UI, Webpack, AWS Amplify

Objectives of the project : The objective of the project was to build a interactive UI for a generic query layer which is a web based platform. The aim of the project was to help teams in querying data without the need of SQL knowledge.

Major Learning Outcomes : React, Typescript, Design systems - Polaris(Cloudscape) & Material UI, AWS Amplify, Webpack

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The team I got was very supportive, even the members outside of team were always ready to help. Mentor was available whenever I had any doubt. Overall working environment was very good.

Academic courses relevant to the project : CS-F213

Name: [SUSHMA REDDY KOLLI\(2019B5A70671H\)](#)

Student Write-up

PS-II Project Title: AUTOMATING SALE BANNER REBATE IDENTIFICATION AND PRICE VARIATION

Short Summary of work done during PS-II : The initial phase of the project focused on creating a robust script capable of systematically extracting comprehensive product page details from competitor websites. The script not only streamlined the data collection process but also ensured the uniformity and accuracy of the acquired information. The gathered data was subsequently stored in Amazon Simple Storage Service (S3), providing a scalable and secure storage solution for the vast amount of product information acquired from various competitor sources. To make sense of this wealth of data, I introduced schema structures to analyze product prices efficiently. DynamoDB (DDB), a fully managed NoSQL database service provided by Amazon Web Services (AWS), was employed to store and organize these schemas. DDB's flexibility and scalability made it an ideal choice for handling the dynamic and evolving nature of competitor pricing data.

Furthermore, to facilitate real-time querying and visualization of pricing insights, the project involved integrating Amazon Elastic Search. Elastic Search, a highly scalable and open-source search and analytics engine, allowed for quick and efficient retrieval of pricing information. This integration played a pivotal role in providing a user-friendly interface for monitoring competitor pricing trends and responding promptly to market dynamics.

Tool used (Development tools - H/w, S/w) : We used spring framework java backend with angular typescript frontend

Objectives of the project : The primary objective of this project was to enhance the efficiency of price management on the Amazon platform by studying and responding dynamically to pricing trends observed on competitor e-commerce retail websites

Major Learning Outcomes : Learnt how AWS tools like S3, DDB and elastic search work. Learnt working with Java backend and Angular Typescript frontend

Details of Papers/patents : No papers or patents

Brief Description of working environment, expectations from the company : The work environment in my team is very open and free. My team has given me the freedom to choose my pace at which work on the project. Getting help was easy and people are approachable. I expected the work would be hectic all the time given the scale of operations in Amazon but it wasn't hectic most of the days except when doing testing and deploying.

Academic courses relevant to the project : OOPS, DBMS and Software Development

Name: ARPIT SHRIVASTAVA .(2019B5A70818P)

Student Write-up

PS-II Project Title: Improving selling partner content relevance

Short Summary of work done during PS-II : I worked on multiple projects to improve content relevance for selling partner at amazon. My project included working with knowledge graphs and machine learning algorithms for recommendations.

Tool used (Development tools - H/w, S/w) : AWS, GIT, Scala, Java, Python, networkX, sql.

Objectives of the project : Multiple projects to improve recommendations for selling partners at amazon.

Major Learning Outcomes : The internship was a great learning experience, It gave a great exposure to corporate environment and software development. I was exposed to a lot of new technologies and delivered results which helped my team.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Amazon expects

Academic courses relevant to the project : DBMS
OOP

Name: NIKHIL(2019B5A71079H)

Student Write-up

PS-II Project Title: Saving Preferences, Failed WorkItems Visibility, Settings/Onboarding Simplification

Short Summary of work done during PS-II : Work done: 1. Implementation of the “save preferences” functionality will reduce the number of clicks required by users, resulting in an improved user experience. 2. Increased client visibility into "Failed Items" provides clients with more transparency on items that did not initiate, reducing pressure on on-call and resulting in

fewer backend queries. 3. Refactored the onboarding API by dividing it into 12 smaller, more maintainable APIs. Utilized these APIs to display individual settings, ensuring that changes in one section of the Settings page do not impact others which will improve overall user experience. Additionally did unit testing to ensure code quality.

Tool used (Development tools - H/w, S/w) : AWS services: DynamoDB, Cloudwatch, Glue, ECS, IAM. Softwares like Quip, IntelliJ, draw.io. Programming languages: Java, Python, React/Redux.

Objectives of the project : 1. Saving User Preferences Currently, if any user wants to see the status of items or agents, he/she will go to Real-time metrics and put filters like clientID, etc, to get the data. My task was to save filter preferences for users so that they don't need to select every time they log in. 2. Visibility on Failed WorkItems In our platform, items may not initialize for a variety of reasons. Currently, we are logging these occurrences but not incorporating them into our database. However since our clients would also like to be informed about items that have failed to initialize, we need to establish a mechanism for storing items that have encountered initialization failures and fetching them for user visibility. 3. Streamlining Settings access: Currently, changing any settings within our platform involves navigating through 6-7 steps, which is not very user-friendly. This inconvenience stems from the fact that a single API manages all logic updates across various settings. Furthermore, during onboarding, we use the same API with a substantial request size, complicating debugging efforts. Splitting this API into 12 smaller APIs was necessary to enhance modularity. A revamped UI for each setting is also needed to ensure that configuring changes requires a minimal number of clicks, thereby enhancing the user experience.

Major Learning Outcomes : Coding Skills: I enhanced my coding skills in Java and React/Redux, prioritizing code quality and doing thorough unit testing.

Writing skills: Working on design documentation allowed me to improve my writing skills.

Tools and services: I learned and enhan

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : In my team working environment was good, everyone was helpful and team was quite young and sometimes

we used to work late. There is no fix timings but you have to finish the work irrespective of whether you come to office or not. Workwise for me, it became a little hectic at the end but it depends task you have. Other than that Amazon Infra is excellent and you won't feel like you are sitting for long hours. Company expectations are that you perform equally to SDE when you are near the end phase of internship. Also since amazon is not hiring for SDE-1, so no chances of PPO in current scenario.

Academic courses relevant to the project : DAA, DSA, SDPD, Software Development

Name: MANPREET SINGH AHLUWALIA .(2020A3PS0419P)

Student Write-up

PS-II Project Title: Vendor central homepage cards

Short Summary of work done during PS-II : I had to collaborate with Product managers and UI/UX designer to update vendor central homepage cards according to new design template.

Tool used (Development tools - H/w, S/w) : Java, Javascript/Typescript, Springboot, AWS SDK, Git

Objectives of the project : Update vendor central homepage cards according to new design

Major Learning Outcomes : Java, Javascript/Typescript, Springboot, AWS SDK, Git

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Amazon has high expectations from its interns. Interns are expected to quickly get onboarded with Amazon's development ecosystem and perform at par or higher than the current SDE1's of the team. Amazon also sees how the interns are performing with respect to its Leadership Principles(LPs). The top 5 LPs interns are expected to demonstrate are - Ownership, Deliver Results, Insist on

the Highest Standards, Dive Deep, Learn and be Curious. Amazon also expects that interns become independent, and they also evaluate how interns are able to navigate through ambiguity. The working environment varies with the team, but every team has a daily scrum call to share updates. Interns will also have weekly or biweekly 1:1 with their manager and mentor to discuss progress, share feedback, and identify any blockers for the project.

Academic courses relevant to the project : Object Oriented Programming, Computer programming

Name: KOSTUBH(2020A3PS0759P)

Student Write-up

PS-II Project Title: Introducing Update & Delete UI & Bulk Operations in COMET

Short Summary of work done during PS-II : I had the opportunity to contribute to both backend and frontend projects during my internship at Amazon. Majority of my work was on internal Amazon tools only. A cool thing I did was make a notification system using AWS tools that showed the status of requests on the screen. The collaborative environment within my team was exceptionally supportive, and the overall work culture was good. Plus, they gave me plenty of time to learn the ropes. Overall, it was a great experience.

Tool used (Development tools - H/w, S/w) : AWS Tools like - Lambda, DynamoDB, SNS, SQS, S3, etc. For the frontend part, ReactJS was primarily used & Java was there for the backend.

Objectives of the project : To introduce new features in their current system.

Major Learning Outcomes : I got hands-on experience with full-stack development. The structured learning environment helped me understand project management and problem-solving. I also learn about various AWS Tools like lambda, DynamoDB, S3, etc.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : During my 5 and a half months at Amazon, the working environment was fast-paced and collaborative. Everyone on the team was very helpful, fostering a supportive atmosphere. We tackled significant challenges, particularly in adjusting prices for millions of products to stay competitive.

The company's expectations are centered on a customer-first mindset and ownership. Amazon emphasized its leadership principles, encouraging us to take initiative and contribute effectively. The open-office layout promoted communication, making it easy to share ideas and work together.

Academic courses relevant to the project : Object-Oriented Programming, Data Structures and Algorithms.

Name: NIKHIL BIYANI.(2020A3PS0776P)

Student Write-up

PS-II Project Title: Self Service Diagnostic Tool

Short Summary of work done during PS-II : Creating a dynamic UI, creating a backend connection to elastic search to fetch data, scaling the tool for different use cases, and creating new API endpoint and it's methods. Implemented a complex logic to stitch the events of different services. Also published new events on Elastic Search cluster.

Tool used (Development tools - H/w, S/w) : JavaScript, API endpoints, AWS Lambda, ElasticSearch, Java, HTML, CSS, Git

Objectives of the project : Develop a dynamic UI which should be generated based on the information present in a config file. Develop a backend connection and stitch the events. Develop a new generic API endpoint and write scalable code to onboard different use cases. Onboard a different use case and also publish more events on the elastic search cluster

Major Learning Outcomes : Creating a dynamic UI, creating a backend connection to elastic search to fetch data, scaling the tool for different use cases, and creating new API endpoint and it's methods.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The work environment and culture was pretty chill, good work life balance, manager and mentors were very supportive to clear the doubts and make the tasks understandable for me.

Academic courses relevant to the project : OOP, DSA

Name: PRATHAMESH DATTATRAY ANWEKAR .(2020A3PS1039P)

Student Write-up

PS-II Project Title: EMR Based Integration Test Suite for TAS Deferral Engine

Short Summary of work done during PS-II : Created a package named 'TASDeferralEngineTest' which allowed adding tests for different types of jobs via JSON config files. It was essentially a no-code integration test framework. It monitors a StepFunction execution and validates the output from the output S3 bucket.

Tool used (Development tools - H/w, S/w) : Scala, Java, Golang, AWS.

Objectives of the project : Develop an integration testing framework for a batch job - TASDeferralEngine

Major Learning Outcomes : System Design, Object Oriented Programming, Cloud Infrastructure Development

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : Good WLB (for interns), helpful teammates. The company expects at least one major project and a few minor tasks to be completed for getting an 'inclined' vote in the final evaluation.

Academic courses relevant to the project : OOP

Name: RITVIK RAO .(2020A3PS1232P)

Student Write-up

PS-II Project Title: Universal Fitment and Vehicle Data Ingestion 2.0

Short Summary of work done during PS-II : Made a low-level design for a multi-tier application and implemented it using Java, Scala, Apache.Spark and a few other Amazon internal tools. Automated the application on a weekly schedule. Implemented a rollback feature that will allow the on-call engineer to revert any changes. Created several rules in python and Java to transform the raw data received from subscription services.

Tool used (Development tools - H/w, S/w) : Java, Scala, Apache.Spark, python, other Amazon internal tools

Objectives of the project : Design and implement a multi-tier application to parse data from a third party subscription service, apply required business logic, upload the data to Amazon's backend catalog.

Major Learning Outcomes : Working in a corporate environment, working with Scala and Apache.Spark, working with a large team, working with software projects on a large scale

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working environment varies from team to team. You can expect to be very busy at times, and bored at others, kind of like a metronome. Interns are expected to have basic knowledge of OOP, DBMS, DSA and computer programming. Most learning is done on the job. Team members will usually help you out if you get blocked somewhere.

Academic courses relevant to the project : OOP, DBMS

Name: HRISHIKESH EKNATH PATIL(2020A3PS2095G)

Student Write-up

PS-II Project Title: AU ARN Project

Short Summary of work done during PS-II : Add patches to current systems to support a new field ARN in payment plugin, database and UI. The displaying of the ARN field on the customer UI helps to reduce the work efforts of the customer service team.

Tool used (Development tools - H/w, S/w) : Java, Groovy, Dagger, Scala, IntelliJ, rsync, ssh, cloud vm

Objectives of the project : Display a transaction tracking identifier in customer UI

Major Learning Outcomes : Understanding of Amazon software architecture especially payments architecture, working with teams across different domains to make the code changes possible

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Project was in office setting with option to work from home. Everyone is given a complete development setup to work on, and team was supportive in solving issues that were faced in the duration of the project. The company expectation is mainly centered around the completion of the assigned projects.

Academic courses relevant to the project : Object Oriented Programming

Name: SHIKHAR SACHAN(2020A3PS2140H)

Student Write-up

PS-II Project Title: Database Localization

Short Summary of work done during PS-II : In my role at Amazon, I spearheaded a pivotal project focused on database localization. Tasked with migrating data to a new server, I played a key role in developing API calls from the new server and seamlessly integrating migration processes. Leveraging the Weblab tech stack, I established new infrastructure, including tables essential for optimized data storage and retrieval. A significant aspect of the project involved crafting Python scripts to backfill existing data from the old server to the new one, ensuring a smooth transition without data loss. These scripts not only facilitated the migration but also showcased my proficiency in scripting and data manipulation. Additionally, I implemented configuration changes to various services, aligning them with the new infrastructure and ensuring the compatibility of the overall system. This multifaceted endeavor honed my skills in API development, database management, and scripting while contributing to the successful localization of the database within the specified tech framework.

Tool used (Development tools - H/w, S/w) : Java, AWS, DynamoDB, TypeScript, Shell, etc.

Objectives of the project : To migrate data to Indian Servers in order to decrease latency and write new APIs

Major Learning Outcomes : Through the database localization project at Amazon, I honed skills in API development, data migration, and infrastructure creation using the Weblab tech stack. The experience deepened my proficiency in Python scripting for seamless data backfilling, show

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : During my tenure at Amazon, I experienced a dynamic and collaborative working environment that fostered innovation and learning. The company's culture prioritized customer obsession, which translated into a fast-paced and results-driven atmosphere. The expectation was not just to meet but to exceed customer expectations, pushing boundaries in the ever-evolving tech landscape.

The collaborative code cycle was a cornerstone of our work, encouraging cross-functional teams to come together, share ideas, and iteratively improve solutions. This not only accelerated project timelines but also nurtured a culture of continuous improvement. The exposure to a myriad of technologies like Java, AWS, DynamoDB, TypeScript, and shell scripting provided a comprehensive learning experience. This diverse tech stack equipped me with versatile skills, enabling me to contribute effectively to a wide range of projects.

While the work environment was invigorating, it was undeniably hectic due to the high expectations and the rapid pace of development. However, this intensity also fueled personal and professional growth, challenging me to adapt quickly and excel under pressure. Overall, my time at Amazon was an invaluable learning experience, shaping my skills and mindset to thrive in the fast-paced world of technology.

Academic courses relevant to the project : OOPS

Name: GAURANG NILESH PENDSE(2020A7PS0132G)

Student Write-up

PS-II Project Title: Onboarding Simplification in Zeus

Short Summary of work done during PS-II : During my PS-II, I actively contributed to the "Onboarding Simplification" project at RBS ML and Tech. My responsibilities spanned diverse areas, including website development, API integration, frontend design, and rigorous testing for Amazon's Zeus ticketing system. I played a pivotal role in enhancing the overall onboarding experience for clients by implementing advanced features and optimizing the system's efficiency. Collaborating closely with the Zeus team, I contributed to the project's success by integrating APIs seamlessly, ensuring reliable communication within the ticketing system. My focus on frontend design aimed at creating an intuitive interface, thereby improving user experience. Thorough unit and integration testing were conducted to guarantee the robustness and functionality of the developed features, addressing potential issues promptly. This experience significantly honed my technical proficiency in website development and API integration. Moreover, I developed effective communication and collaborative skills while working within a dynamic team environment. The project emphasized the importance of user-centric design, and I actively contributed to streamlining the onboarding process, ultimately fostering positive client relations. Overall, my PS-II experience not only enriched my technical skill set but also provided valuable insights into project management, teamwork, and the practical application of software development principles in a real-world setting.

Tool used (Development tools - H/w, S/w) : The tools used during the "Onboarding Simplification" project at RBS ML and Tech encompassed a mix of hardware and software components: Development Tools: IDE (Integrated Development Environment): Specific IDEs for web development (e.g., Visual Studio

Objectives of the project : The project's objectives were to streamline client onboarding within Amazon's Zeus ticketing system at RBS ML and Tech. This included enhancing the user experience through website development, API integration, and frontend design. The goal was to optimize efficiency, reliability, and overall satisfaction for clients interacting with the ticketing platform.

Major Learning Outcomes : The major learning outcomes from the project encompassed:
Technical Proficiency:
Advanced skills in website development, API integration, and front-end design.
Collaborative Teamwork:
Effective communication and cooperation within the Zeus team, foster

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment during my PS-II at RBS ML and Tech was dynamic, collaborative, and technology-driven. The company fostered a culture of innovation, emphasizing continuous improvement in financial services technology. Expectations centered on actively contributing to the "Onboarding Simplification" project for Amazon's Zeus ticketing system.

In this environment, a multidisciplinary team approach was encouraged, fostering effective communication and collaboration. The company set high standards for project delivery, with an emphasis on the quality of software development, user experience, and meeting industry best practices. There was a strong commitment to staying abreast of technological advancements, ensuring that projects aligned with the latest trends and innovations in the field.

Expectations included a proactive engagement in website development, API integration, and frontend design, along with a thorough commitment to testing and quality assurance. Meeting project milestones within specified timelines and prioritizing tasks based on critical client needs were crucial expectations. Additionally, a keen focus on user-centric design principles was expected to enhance overall client satisfaction.

Academic courses relevant to the project : Computer Science Fundamentals

Name: SAARANSH MARWAH(2020A7PS1687G)

Student Write-up

PS-II Project Title: Test Report Sharing

Short Summary of work done during PS-II : Reduce the dependance on a third party testing platform for report generation and sharing. Make the report customizable corresponding to the needs for the Amazon team.

Tool used (Development tools - H/w, S/w) : AWS Lamda, AWS DDB, AWS Cloud, ReactJS
Typescript

Objectives of the project : Increase efficiency for test report sharing

Major Learning Outcomes : Add a New Functionality to the current testing architecture of Amazon

Details of Papers/patents : No paper was being implemented.

Brief Description of working environment, expectations from the company : Knowledge of JavaScript, Typescript and React. Prior knowledge of System design is preferred. OOP is also very essential. Familiarity with IntelliJ Idea and AWS Tools will also be helpful.

Academic courses relevant to the project : OOPS, DBMS, OS

Name: KAUSTUBH MISHRA .(2020A8PS1558P)

Student Write-up

PS-II Project Title: CDK Automation and Full CD of ArkantosService

Short Summary of work done during PS-II : I have successfully completed three projects that involved applying my knowledge of AWS services and software development to practical scenarios. These projects were:

- **Creating an AWS State Machine to Automate ML Model Training:** This project involved designing and implementing a workflow using AWS Step Functions to automate the complete ML model training process for my team's service. This automation significantly reduced manual intervention and improved the efficiency and consistency of the model training process.
- **Creating Entire CDK Infrastructure to Support a New Client Onboarding:** This project involved utilizing AWS CDK to provision and configure the necessary infrastructure for onboarding a new client. This included defining resources like EC2 instances, S3 buckets, VPCs, and IAM roles using CDK constructs, enabling rapid and automated

infrastructure deployment for new clients. • Writing Integration Tests for a Service to Implement Full CD: This project aimed to implement full CD for a service by writing integration tests using AWS Hydra and Fargate. These tests verified the seamless interaction between the service and its dependencies, ensuring a stable and reliable deployment process. This approach leveraged the scalability and cost-effectiveness of Hydra and Fargate, contributing to a more efficient and reliable CI/CD pipeline.

Tool used (Development tools - H/w, S/w) : CDK, AWS EMR, AWS StateMachine, AWS Hydra

Objectives of the project : Create CDK infrastructure to onboard new client. Create an automated state machine to train ML Models. Write integration tests for a service.

Major Learning Outcomes : Learnt high quality code writing, design fundamentals, how to deep dive to resolve issues.

Learnt a lot about the AWS development environment and tools.

Learnt how to collaborate with other teams and individuals.

Learnt Python and TypeScript extensively.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment was healthy and chill. Team was very helpful and supportive.

Company did not overburden with work. Manager was friendly and supportive.

Company expected high quality code, good design fundamentals, and eagerness to learn and develop at the top.

Academic courses relevant to the project : Object Oriented Programming, Data Structures and Algorithm, Machine Learning.

Name: VASHU .(2020A8PS1792P)

Student Write-up

PS-II Project Title: Data Localization and Migration of SNS Topics

Short Summary of work done during PS-II : My first project involved writing python scripts using a library called Boto3. The objective was to migrate databases from one AWS region to another to reduce latency in API calls to the tables. My other project involved creating a new java package which would be responsible for publishing notification based on the user's subscribed notification channel's region. Every other package which invokes the notification service will be using this package, so yeah I was fortunate enough to get a project that was pretty important and impactful

Tool used (Development tools - H/w, S/w) : Python Boto3, Java, Spring, Junit5, AWS.

Objectives of the project : To migrate Merchant Data from a DDB in a region to another DDB in another region. Second project required the migration of SNS topics from one region to another.

Major Learning Outcomes : Backend Development and working with databases

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment was good, can get hectic sometimes and you've to be ready for it. My mentor expected a lot from me, which sometimes led to me working even on weekends but that's just part and parcel of working on a very critical project. One suggestion from my side: don't shy away asking your doubts and don't slack away when you're working especially when WFH. Other than that, teams are very supportive and help you out whenever you're stuck.

Academic courses relevant to the project : OOP, DBMS

Name: PRATIK MOHAN.(2020A8PS1801P)

Student Write-up

PS-II Project Title: Throttling enhancements

Short Summary of work done during PS-II : As an SDE Intern at Amazon, I played a pivotal role as a core member of the Voltron Payments Team, responsible for managing payment platforms for all digital clients. I led the implementation of a highly effective Bot Mitigation strategy using Java Spring, resulting in a remarkable reduction of over 97% in bot traffic. Additionally, I developed a robust throttling service in Java Spring, optimizing client and API-level throttling, thereby enhancing Service Level Agreements (SLAs) with clients. My contributions extended to the establishment of efficient Continuous Integration/Continuous Deployment (CI/CD) pipelines using AWS CloudFormation, AWS Lambda, AWS AppConfig, and S3 within the CDK framework. These pipelines efficiently managed and deployed configurations, minimizing risks during faulty configuration instances. This was my major project apart from I had other projects as well mostly concerned with migrations.

Tool used (Development tools - H/w, S/w) : IntelliJ Idea, AWS, Java, Spring, Ruby, CDK, LPT, JS

Objectives of the project : Bot Mitigation and Throttling Enhancement

Major Learning Outcomes : Learned Dev process lifecycle.

Learned Payments processes.

Learned java spring, JS, TS, Ruby, design patterns and AWS.

Details of Papers/patents : Not applicable

Brief Description of working environment, expectations from the company : The first one or two months would be relaxed, but after that, to quote my teammate, "They'll throw you in the deep end of the pool. You will struggle and will eventually learn to swim", but don't expect that it'll happen only once then you wouldn't get that feeling again. You will be challenged at every turn, and eventually, you'll work out mechanisms to solve your blockers. I have worked on many nights and some weekends as well.

As long as you deliver high-quality results, you'll be fine. My teammates were very cool and experienced. I had a great time learning from them.

Academic courses relevant to the project : Oop and computer programming

Name: Kashyap Kannan(2020A8PS2220H)

Student Write-up

PS-II Project Title: Improving Latency of Customer Payments Related Services for EU region

Short Summary of work done during PS-II : I resolved many risks in the code of the services owned by my team at Amazon, helped refactoring code to improve latency in services in the consumer payments flow in EU region, solved issues with analysis related lambda function. I also set up a throttling mechanism for one of the services, to improve its resilience to high TPS rates, and formulated and got a design approved to implement caching in consumer payments flow.

Tool used (Development tools - H/w, S/w) : Macbook, intellij, AWS accounts.

Objectives of the project : To keep services related to the consumer payments for the EU region updated, and improve upon them.

Major Learning Outcomes : Working with CI/CD pipelines, running unit tests, integration, stress tests, etc. Working with serverless architecture, ticketing systems, git.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was professional, with freedom given to me to choose working hours and attendance. There was a recommendation to attend office physically at least 3 times a week, but no restriction on timings. We had a team meeting every day except fridays, with access to recreation rooms anytime. We also had access to a mess that was always open, and a kitchenette with fridges/ coffee machines. We were allowed to take days off as long as we informed our

manager. There was an emphasis on delivering results, however possible, irrespective of attendance, etc.

Academic courses relevant to the project : Object Oriented Programming

Name: Saloni Prabhu(2020AAPS1023G)

Student Write-up

PS-II Project Title: IFS behind PayStation service migration & IFS Integration Testsuite

Short Summary of work done during PS-II : My project aims to facilitate Payment Service migration from the existing Upstream Client to Payment Method Promotion flow to a more robust Upstream Client to Central Payments Client to Payment Method Promotion service flow. The primary motivation for this migration is to enable scalability of our service, allowing other service teams to seamlessly integrate our product into their workflow logic. After the development of this new flow is completed my task is to thoroughly test the changes and ensure they cause no change in the customer payment experience. For my migration project tasks, I worked on developing the new structure and facilitate the new code flow in all packages in terms of product development. This task was to enable scalability and make our payments service more easily integrable for new clients, thereby improving the productivity and efficiency of the services. Finally I was in charge of complete testing of the code changes for this service migration project, developing and adding new testcases by diving deep into the codebase and to understand each possibility and cover all edge cases. This project was required to be completed as part of a contract changes in dependent payment services and frontend design. It was a high priority project with a December deadline. Its completion has helped the organization prevent blockage in our payments service and resulted in zero customer impact. This migration also improved our service scalability due to which we can leverage business with new clients.

Tool used (Development tools - H/w, S/w) : S/w - Git, IntelliJ, Amazon Internal Tools, Cloud desktop

Objectives of the project : My project aims to facilitate Payment Service migration from the existing Upstream Client to Payment Method Promotion flow to a more robust Upstream Client to Central Payments Client to Payment Method Promotion service flow. The primary motivation for this migration is to enable scalability of our service, allowing other service teams to seamlessly integrate our product into their workflow logic. After the development of this new flow is completed my task is to thoroughly test the changes and ensure they cause no change in the customer payment experience.

Major Learning Outcomes : • Project Design and Implementation: I gained valuable insights into project design methodologies and the intricacies of migrating a critical service like Payment Method Promotion. The hands-on experience in developing code logic, particularly in relevant

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The Amazon work environment is characterized by its rapid pace, dynamic and collaborative nature. Employees are given complete ownership of their assigned tasks, requiring them to navigate through optimized development, thorough testing, and project deployment, all while ensuring comprehensive documentation. The atmosphere is friendly and colleagues are always ready to assist when approached with a question. Team members and project leads may undergo frequent changes as per organizational requirements creating a constantly changing environment which highlights the importance of being able to adapt quickly to new situations and team members. The work schedule is flexible, with a focus on meeting deadlines, which may slightly impact the balance between work and personal life.

Academic courses relevant to the project : Object Oriented Programming, Data Structures and Algorithms, Database Management Systems, Computer Networks

Name: PARIKSHIT GUPTA(2020AAPS1413G)

Student Write-up

PS-II Project Title: Log-Auditor-Tool

Short Summary of work done during PS-II : Integrated a log source named Jarvis with already existing Log-Auditor-Tool

Tool used (Development tools - H/w, S/w) : H/w - Mac, provided by the company, S/w - Java, AWS

Objectives of the project : Integrating a log source named Jarvis in Log-Auditor-Tool so logs can also be audited for that Log Source

Major Learning Outcomes : Java, AWS

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Work environment is good throughout the internship. In the end of the internship an evaluation process occurs where you get a incline or not incline from the manager. According to which your hiring will be decided. Throughout my internship my relations with the manger were good and work done was also up to the mark but I still got a not incline so in conclusion you'll never know whats going on in the manager's mind.

Academic courses relevant to the project : Java

Name: VIKHYAT SINGH GAUR(2020AAPS1765H)

Student Write-up

PS-II Project Title: Monthly Invoice Feature Enhancements and Data Backfilling

Short Summary of work done during PS-II : 1)Designed and Implemented a Streaming Architecture for Backfilling Data: Orchestrated a comprehensive LLD for a streaming architecture, employing AWS CDK and integrating DynamoDB, DynamoDB Stream, AWS Glue, AWS Lambda, AWS SQS, and internal tools. Executed end-to-end development in Typescript and used Python for AWS Lambda Code. 2)CreationTime Discrepancy Resolution: Conducted an in-depth analysis to rectify a critical CreationTime Discrepancy Issue of the Monthly Invoice Payment Method within the Production DynamoDB table. Implemented a precision-driven solution using SQL queries to store accurate data in a new DynamoDB table. 3)Resolved Bank Account Verification Authentication Mis-Challenge Issue: Resolved BAV getting mis-challenged for customers by reevaluating triggering mechanisms and introducing an alternative field for verification, using Kotlin for code. Deployed solutions with A/B testing methodologies, by gradually rolling out. Modelled new Integration and Unit tests to uphold code quality and system robustness. For DE and NL marketplace customers, the change showed a 25% decrease in BAV thrown due to mis-challenge.

Tool used (Development tools - H/w, S/w) : AWS CDK, DynamoDB, Glue, Lambda, SQS, and other internal tools

Objectives of the project : To make a data streaming architecture for backfilling large data.

Major Learning Outcomes : Learning of the Web, learning of various data streaming tools and ETL pipelines, Various Authentication Mechanisms, Languages: Typescript, Kotlin, Python, Java,

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The work is quite hectic, you are expected to raise the bar, and show all the leadership principles, if you want to get a PPO.

Academic courses relevant to the project : Object Oriented Programming, Software Development

PS-II Station : Amazon Development Center , Chennai

Faculty

Name: T Venkateswara Rao

Student

Name: PRIYANSHU NOUGRAHIYA(2019B1A31073G)

Student Write-up

PS-II Project Title: Customer Feedback Page

Short Summary of work done during PS-II : I worked on the Customer Payment Feedback project, focusing on the collection of customer feedback related to payments. The main goal is to enhance the customer payment journey by analyzing the collected feedback. Currently, there are no mechanisms in place to gather customer feedback for payments, which limits our understanding of customer pain points. While other feedback mechanisms exist for products and delivery, extending this to payments is essential. The project requirements include a customer-facing prompt for Payment Feedback in YO/OD, feedback submission pages in Arabic and English, and internal capabilities to extract reports and retrieve feedback data for specific payment methods and marketplaces.

Tool used (Development tools - H/w, S/w) : Html, CSS, Javascript

Objectives of the project : To create a page where customers can share their payment feedback

Major Learning Outcomes : Html, CSS, Javascript

Details of Papers/patents : na

Brief Description of working environment, expectations from the company : Very good working environment

Academic courses relevant to the project : OOPS, DSA

Name: AVIRAL HARSH(2019B1A31559H)

Student Write-up

PS-II Project Title: API Throttling & Advanced Stacking Feature Integration

Short Summary of work done during PS-II : API Throttling to be integrated in an Amazon Payments service to prevent brown out during overload. Renewal feature integration in Amazon Subscription Services, to improve customer experience, thereby allowing the customers to buy a future subscription plan even if a current plan exists.

Tool used (Development tools - H/w, S/w) : Macbook, AWS, Java, Junit, Amazon Internal Tools

Objectives of the project : API Throttling to prevent brown out of service and Renewal feature integration in Amazon Subscription services

Major Learning Outcomes : Git, Java concepts, Unit Testing, Code practices, AWS, Integration Testing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment is somewhat flexible. 3 days a week in office was compulsory. For a non CS student, it is expected that you should have the extensive knowledge on OOPS, OS , DSA, Networks, System Design concepts, AWS.

Academic courses relevant to the project : OOPS, OS, DSA

Name: RITVIK GUPTA .(2019B4A30690P)

Student Write-up

PS-II Project Title: End of Day File Generator

Short Summary of work done during PS-II : I was an active part in design phase on the new EOD file system used to send transaction data to banks by Amazon Payments Services. We coordinated with many teams like business operations, security and product to develop a scalable solution that works for all banks. Technology used- AWS CDK, Java, Spring, AWS

Tool used (Development tools - H/w, S/w) : Aws, Java, Typescript, Docker

Objectives of the project : To develop a scalable end of day file generation service for Amazon Payments Services

Major Learning Outcomes : To use AWS services to design and develop scalable systems to meet industry standards.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The environment was relaxed in terms of working hours, Amazon followed scrum system so you were help accountable for work you did in past 2 weeks, not everyday. Sprint planning is taken very seriously, and you need to deliver results at the end of every sprint, i.e. 2 weeks. All team members are very helpful and collaborative.

Academic courses relevant to the project : OOP, CP

Name: PRITISH SURESH DAKHOLE .(2020A8PS0804P)

Student Write-up

PS-II Project Title: Integration of backend services and new feature development

Short Summary of work done during PS-II : I worked on majorly two projects. 1. End-to-end task of onboarding and integrating two of Amazon's internal services, a process visualization tool, with an internal AWS service. This was needed to improve efficiency and save debugging time for the developers working on the project. It was an end-to-end project presenting a complete SDE development cycle. I performed requirement analysis, designing the system, presenting and reviewing HLD to the team, doing POC for various approaches and coming to a conclusion for implementation. Then, I primarily worked on Java and used AOP as well as dependency injection to configure modules and tested it on AWS console. Also worked with CDK and IAM Roles. 2. Building a responsive webpage for Existing Card Member which will display the rewards earned by a customer along with a pictorial representation of the same in a piechart. My job was the implementation of the frontend part of building the piechart. For this purpose, I worked with an open source library - MUI and built the component using CSS, react and typescript. I also needed to maintain high code quality, handle edge cases and build storybook.

Tool used (Development tools - H/w, S/w) : AWS (CDK, Lambda), Java, Typescript, Internal tools

Objectives of the project : 1. Integrating a process visualization tool with an internal NAWS service. 2. Building a new feature webpage.

Major Learning Outcomes : Dagger, Aspect Oriented Programming, React, AWS, OOP, Multithreading

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Wfh optional for 2 days a week and work timings are flexible. My whole team was pretty helpful and chill. You get to work with highly experienced professionals in the industry at Amazon, due to which I had a great learning curve, but there are high expectations to deliver results. Still, there are tons of tools and resources available and you get the chance to work on high impact projects. Navigating through ambiguity is the biggest challenge, but communicating with manager, mentor and the team makes it easier.

Academic courses relevant to the project : OOP, OS, CP

Name: HARSHIT JODHANI .(2020A8PS0818P)

Student Write-up

PS-II Project Title: Accounting Dashboard

Short Summary of work done during PS-II : Expectations were put as the part of High Level Design(proposed) and my job was to create Low Level Design and Implement the workflows which were part of LLD. Additionally I got an exposure of creating a new service from scratch to have these workflows implemented and it involved multiple decisions which were taken by keeping all stakeholders in loop.

Tool used (Development tools - H/w, S/w) : React, AWS Lambda, AWS API Gateway, Cloudformation, Cloudwatch, RDS, JAVA, NodeJS

Objectives of the project : Reduce Developer Effort for an internal process based on SOP.

Major Learning Outcomes : Service Setup, Scalable Backend & Frontend Development using AWS Resources

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Fast paced and dynamic work environment, there are enough resources and networks to learn from. There was workload especially in the last 4 months but it is manageable and one of the best organization to work with as they consider feedback as one the way of constant improvements. So most of the people were transparent in providing feedbacks at regular intervals.

Academic courses relevant to the project : OOPS, CP, DBMS

Name: ANANTH RAGHAV(2020A8PS1797G)

Student Write-up

PS-II Project Title: Latency Dashboards and Redrive Enabled Lambda

Short Summary of work done during PS-II : Implemented dashboards that captured latency related to each operation and implemented a new design in a service within the team. These dashboards are internal and are being used to monitor the network latency of the services especially during peak usage. The new design implementation improved the functionality of the service it was implemented in along with decreasing latency in the process.

Tool used (Development tools - H/w, S/w) : AWS, Kotlin, Java, Typescript

Objectives of the project : Create visual representation of latency associated with each operations across team services.

Major Learning Outcomes : Learnt System Design using AWS along with dependency injection using various frameworks such as dagger, spring etc. Also learnt technical writing in consistence with Amazon standards.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work environment was amazing as the team actively provided help and the work culture was innovative. My expectations were met as the amount of knowledge I had consumed in the 6 months was enough to gain confidence in rising to a SDE role. Everyone within the team I worked in treated me as an equal.

Academic courses relevant to the project : Object Oriented Programming, Operating Systems

Name: CHAITANYA CHAUHAN .(2020A8PS1815P)

Student Write-up

PS-II Project Title: Betsy Mocker

Short Summary of work done during PS-II : mock an internal service by the name of Betsy, and provide appropriate type validated API responses from the Mocker

Tool used (Development tools - H/w, S/w) : AWS, Git, Java, Spring

Objectives of the project : To mock an internal service by the name of Betsy, and provide appropriate type validated API responses from the Mocker

Major Learning Outcomes : API Architecture,

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Good working environment, 8 member Agile sprint

Academic courses relevant to the project : OOP, OS

Name: ABHISHEK DESHMUKH(2020AAPS0353G)

Student Write-up

PS-II Project Title: Email escalation to L8 for due rates in SRM and extending rate notifications to all the rates.

Short Summary of work done during PS-II : Datanet is an internal tool in Amazon that is used to perform ETL tasks. Created datanet jobs for a region and created a slack alert whenever a sla is missed for any region by using Autosim and javascript. For the L8 escalation project, I created a new notification type L8 escalation and also mocked the response of People API and by using aws technologies like lambda, eventbridge , dynamodb, ses, s3 , I set up the system to send out reminder notifications to L8 if the rate is not uploaded on srm. Also for a particular rate to have an email notification feature, we should mark emailnotificationfeature column as 1 in dynamodb. In production, we had a lot of rates, and for each marketplace, we had to mark it as 1 so we could do that manually, but that was not a good thing to do so So to automate the process I created a lambda function which interacts with DynamoDB and S3 both. With the help of python I wrote a script in the lambda console that automates the process And using S3 also stored the data in csv format in s3 buckets to keep track of all the rates and marketplaces changed. so this was the work done part.

Tool used (Development tools - H/w, S/w) : AWS technology (lambda,eventbridge,s3,dynamodb, ses,rds), IntelliJ IDEA

Objectives of the project : L8 Escalation : Establish a mechanism to escalate the issue to L8 (Level 8) if a rate owner has not submitted their rate even after a certain number of days past the due date. Notification Extension: Extend the notification system to cover all rates in SRM, ensuring comprehensive coverage and timely reminders for all rate submissions.

Major Learning Outcomes : Learnt things related to AWS and cloud, new programming languages like java, python, javascript also about database like dynamodb and coding standards in industry. Learnt about documenting the things also.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company :

As an SDE intern at Amazon, I thrived in a dynamic, customer-centric environment that emphasized innovation and collaboration. My role involved contributing to software development, participating in agile processes, and collaborating with cross-functional teams. Amazon's culture of ownership and high expectations for quality and timely delivery shaped my experience. The emphasis on leadership principles, including customer obsession and innovation, guided our work. The internship not only enhanced my technical skills but also highlighted the importance of teamwork and adaptability. Amazon's commitment to continuous learning fostered an environment where personal and professional growth was paramount.

Academic courses relevant to the project : Data structures and algorithms, oop, etc.

Name: GAURAV CHATURVEDI(2020AAPS0396G)

Student Write-up

PS-II Project Title: Sandbox Automation & E-KYC

Short Summary of work done during PS-II : 1) I was successful in implementing a sandbox UI tile with button and a message in APS website. 2) I was asked to implement a modal popup upon clicking Join-Us page in APS website which I was able to complete successfully with the closing functionality in 3 different ways for an improved user experience. 3) I had to integrate createUserAccountApi with the APS website code-base. It was this task which was supposed to be implemented using AJAX call along passing country code as a dynamic parameter. I had to make a function createUserAccount in GSDashboard controller invoking the API call upon clicking the proceed button after selecting country from the dropdown and handle appropriate exceptions and pass a ModelAndView object depending upon the response in order to handle success and failure scenario. 4) Add metrics to APS website again for the GSDashboard controller page. I got closure for its CR and have to test it now in the APS Beta Website. Metrics like start, end, latency, success etc. were reqd and are functioning pretty well in the cloudwatch. 5) Migrate security pass-phrases of Sandbox Payment Options from source code to AWS Secrets Manager through the

use CDK in code. Security Pass-phrases were initially were hardcoded in the POConfiguration file in the package APSCMSSandboxWorkflowLambda. This doesn't come under good coding practises and needed to be moved out somewhere secure. I formulated a new utility which is supposed to take in 2 parameters upon invocation namely - 1) Secret name 2) Secret-Key name and return the key's value pair in return, else it throws a NotFoundException. Although only one Secret-name is being used currently for the package, but adding it as a parameter will ensure future reusability of the util function for any number of Secrets. Eventually I created a const role explicitly for paymentOptionsCreationLambda and deployed the changes through pipeline for each of the stages, Beta, Gamma and Prod. 6) I started working for the E-KYC initiative afterwards, for the part of merchant verification process. As a part of E-KYC merchant verification process, there will be multiple compliance applications for a given merchant. I worked on the interface for the customers who might have multiple pending applications for a merchant. 7) I formulated a UX tile which captured all the pending applications in a scroll-box sort of experience right inside the tile itself. Merchant can see the interface on the APS Website Dashboard screen and take actions on the pending applications. 8) User Experience: Alongside the mock appearing, A hovering effect should be present upon hovering over the items. Every item should be clickable and should redirect to a separate page itself. UX was designed keeping in mind the mobile phone screens along with PCs. 9) Custom Metrics for 2 services: I added some custom Cloud-watch metrics for a couple of services namely, APS3PConnectorService and APSCMSDocumentManagementService. Pipedrive, Signzy and Dossier activities are covered under the metrics being emitted. 10) Infosec Role addition: The idea was to create a new infosec role for a couple of services namely APS3PConnectorService APSCMSDocumentManagementService. 11) It involved deploying a new infosec-role stack deployed along with all the existing stacks through CDK with the appropriate policy attached to it. I attached role-name with the application stage which might come in handy for debugging purposes. It also has contingent-auth enabled. 12) During My internship, I kept learning about all the AWS Services and products I could and eventually I was able to clear the AWS Cloud Practitioner Certification with a score of 806/1000 points.

Tool used (Development tools - H/w, S/w) : Git, IntelliJ, Docker, Cloud Desktop, Java, Kotlin, Typescript, HTML, CSS Javascript, AWS Secrets Manager, AWS Lambda, AWS Step Functions, AWS IAM, AWS Cloudwatch, Spring MVC

Objectives of the project : Project aims to reduce the onboarding time for a new merchant on APS Website and provide the merchant the privilege to use the sandbox account as a test account for integrating payment options. E-KYC aims to automate the process of legal compliance based documents and processing for new merchants.

Major Learning Outcomes : I learnt about the vision and the leadership principles of Amazon. I have been introduced to various services within the software domain and the uses for each of them. I have also learnt about a lot of new tools and technologies like API, AWS, Git. While

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment was pretty good in my team. My teammates and mentor were really helpful. But before reaching out to teammates for help, make sure you do adequate research on your own. Working hours are flexible, you just have to be available for all meetings. Coming to expectations, in the first month, you are expected to quickly ramp-up to the internal tools and services used by your team. After that, you are expected to deliver results, in an incremental basis wrt to the project assigned to you. Workload is mostly team-specific, for me it was manageable. Had to put in late nights when issues came up or when a release is taken into production. But otherwise, it is manageable

Academic courses relevant to the project : DSA OOP

PS-II Station : Amazon Development Center , Hyderabad

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: Simran Kaur Sodhi(2018B4A70845P)

Student Write-up

PS-II Project Title: Iris Connectivity Regression Testing

Short Summary of work done during PS-II : Tasks Completed: 1. Integration Test setup for AS2: This objective involves creating a comprehensive integration test setup for the AS2Connector, which will help verify that it operates correctly within the broader software ecosystem. 2. Define AS2 protocol test cases: Defining specific test cases for the AS2 protocol is essential. These test cases will encompass various scenarios to ensure that the AS2Connector correctly follows the protocol specifications. 3. Implement AS2 protocol custom automated test suite. 4. Onebox Design 5. Onebox Implementation

Tool used (Development tools - H/w, S/w) : Java, AWS CDK, Amazon CloudWatch, Git, AWS DynamoDB

Objectives of the project : Regression testing refers to a software testing technique that re-runs non-functional and functional tests to ensure that a software application works as intended after any code changes, updates, revisions, improvements, or optimizations. The goal of this project is to setup a regression setup for the AS2Connector, ArceusTransformation services to ensure that no errors are deployed into production negatively impacting the customer.

Major Learning Outcomes : The internship melded academic knowledge with practical application, fostered adept problem-solving, nurtured crucial soft skills like communication, and bolstered my technical expertise in working with AWS resources, CDK, different testing methodologies

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment is inclusive and collaborative. The team's willingness to share knowledge and support one another created a positive atmosphere that fostered both personal and professional growth. The hands-on experience and exposure to real-world challenges have significantly contributed to

my understanding of the industry. My manager expected me to work from office daily and complete all deliverables of project.

Academic courses relevant to the project : OOP

Name: RAVISH CHAND .(2019B1A31036P)

Student Write-up

PS-II Project Title: Ticket Set up for Key Performance Indicators & Add Teams Permission in PAM Self- Serve

Short Summary of work done during PS-II : Focused on enhancing functionality of tier 1 service NPC, I concentrated on configuring tickets for diverse key performance indicators. A pivotal addition to PAMSelfServe included a streamlined feature automating team permissions, empowering team owners to grant access without reliance on the PA team. This implementation significantly slashed the PA team's workload by 22 hours per week through efficient automation. Leveraging AWS tools such as AppConfig, IAM roles, Cloudwatch rules, and lambda functions, I meticulously optimized code readability and minimized costs. Additionally, a concerted effort was directed towards strengthening code coverage by implementing comprehensive unit tests, ensuring the maintenance of elevated coding standards.

Tool used (Development tools - H/w, S/w) : Java, TypeScript, React, AWS tools(Cloudwatch, appConfig, ddb, IAM roles, api gateways, etc))

Objectives of the project : 1> To set up Tickets for all KPIs if claims are not published. The main goal is to provide a trustworthy service and keep a check on Logistic Party performance. 2> To add Teams Permission in PAM SelfServe.

Major Learning Outcomes : Java, TypeScript, React, AWS tools.

Details of Papers/patents : Worked on Design(LLD, HLD), and self-review doc.

Brief Description of working environment, expectations from the company : Amazon fosters a vibrant and encouraging work atmosphere, brimming with enthusiastic peers driven to accomplish tasks. Proficiency in Java programming and React for UI development is crucial in this environment. Embracing the leadership principles during your internship promises an exceptional experience.

Academic courses relevant to the project : Object Oriented Programming

Name: PRACHET PANKAJ CHOUDHA(2019B1A31123H)

Student Write-up

PS-II Project Title: RFT River Onboarding

Short Summary of work done during PS-II : The frontend is built using HTML, CSS, Javascript and the backend will be supported by various AWS Services like CDK, Lambda, CloudWatch etc. The backend data will be fetched using downstream services of sister teams and the data will be displayed on the frontend with the help of an AWS lambda.

Tool used (Development tools - H/w, S/w) : HTML, CSS, JavaScript, AWS

Objectives of the project : Developing a full stack website for customer service associates to help them track the type of return resolution chosen by the customer and help the customer suitably track their refund.

Major Learning Outcomes :

- Wrote and submitted multiple code snippets during the course of the internship. All of them were code reviewed and subsequently deployed.
- Gained knowledge about multiple aspects of the software development domain. Learned about various new languages a

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Team is very helpful. The first month consists of upskilling and ramp up tasks. In the subsequent months, you will be expected to deliver code at a pace which is on par with existing SDE-1's in your team.

Academic courses relevant to the project : OOPs, Computer programming

Name: GOSAVI ADITYA SANDEEP .(2019B1A80963P)

Student Write-up

PS-II Project Title: SQS and its handler creation

Short Summary of work done during PS-II : 1) Setting up RDE(Rapid Dev env) for existing service- Onboarded one of the existing services onto RDE, performed API testing, and pushed the code changes into testing branch. RDE testing taked very less time compared to normal gamma testing which takes 2-3 hours for deploying into the pipeline 2) API integration- Integrated 2 APIs into existing service for an ongoing project 3) SQS and consumer creation- Created SQS in CDK package, and also wrote the whole implementation for consuming the messages in SQS, testing and deployment

Tool used (Development tools - H/w, S/w) : intelliJ, Docker, Java, React, Angular

Objectives of the project : 1) Write the implementation of SQS creation using CDK(Cloud Development Kit) package 2) Write the implementation of SQS consumer in existing service of the team 3) Code testing and deployment

Major Learning Outcomes : 1) Java
2) Unit testing, mockito framework, spring, CI/CD pipelines
3) Docker, Rapid Development Environment RDE

4) AWS services like SQS, SNS, cloudWatch

Details of Papers/patents : na

Brief Description of working environment, expectations from the company : The working environment was decent. The usual working hours were 11-6/7, but some days you need to stretch more. There are no strict constraints for log-in and log-out.

I expected to learn and grow in Amazon, and those expectation were met. I found immense opportunities which enabled me to show leadership and ownership in the organization.

Academic courses relevant to the project : Object oriented programming (OOP), Operating systems (OS)

Name: AYUSH HIRANWAR(2019B1AA1074G)

Student Write-up

PS-II Project Title: LLM Integration POC Application, Widget Internationalization & localization

Short Summary of work done during PS-II : For my first project I worked on a demo application, this application was developed for presentation purposes to showcase Visibility LLM/GenAI project to senior leadership. It involved displaying modified RTTVWidget with two UI pages, a chat page which mimics automated agent response and a tracking page which mimics what a CS agent will see when a customer opts to contact a human agent. This project involved writing a connector Lambda between frontend and backend services from scratch, preparing datasets for the LLM model, and creating a new react widget. For my second project I worked on RTTV Widget Internationalization & Localization, Previously RTTV Widget was available to clients in only one language (English). As per the business requirement, we needed to support Abebooks client's localized websites as well. Therefore, I implemented localization support in the widget.

Tool used (Development tools - H/w, S/w) : Java, React & Typescript, AWS (Lambda, API Gateway), Python, Git

Objectives of the project : Develop demo application for showcasing Visibility LLM/GenAI project, Add Internationalization and Localization support in RTTV Widget

Major Learning Outcomes : Throughout my internship, I've honed and expanded a diverse skill set crucial for my project's demands.

Java: Enhanced my proficiency in Java for application development.

React & Typescript: Acquired new skill set working with frontend technologies.

Ama

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Amazon provides a work environment that is conducive to learning and growth, with opportunities to work on a large scale and learn from highly motivated people. Amazon's work culture is innovative and fast-paced, which allows employees to learn and grow in their careers. The expectations vary and differs from team to team, but they all require you to be delivering results timely, your mentor and manager will provide you with valuable feedback and solutions which will help you push through obstacles seamlessly.

Academic courses relevant to the project : Object Oriented Programming

Name: JINAN AHMED SARMADI(2019B2A31070G)

Student Write-up

PS-II Project Title: MAWS to NAWS Migration of a Service and AppConfig implementation for a package

Short Summary of work done during PS-II : Set Up Cloud Infrastructure to host the migrated Service on AWS Accounts. Created various stages (Beta, Gamma, Prod) for the migrated Service. Fixed multiple errors that came during migration. Tested the Service for correct responses. Initiated Traffic shifting from Old Service to New Service. Implemented Throttling in the Service.

Tool used (Development tools - H/w, S/w) : S/w - Pipelines, Amazon BuilderHub, AWS AppConfig, AWS IAM, AWS ECS, AWS Cloudformation, AWS Cloudwatch, AWS Step Functions, JAVA, TypeScript, etc.

Objectives of the project : Migrate the team's Service from MAWS to NAWS

Major Learning Outcomes : Majorly learnt how to use CDK (Cloud Development Kit) to create infrastructure in cloud (was mainly in Typescript). Learnt about Pipelines. Learnt to deploy and test in various stages (Beta/Gamma). Learnt how code changes are done in the Tech Industry

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The company's expectation was fine but my team had really high expectations. They wanted me to deliver the Projects as early as possible.

Work Life Balance was fine. Working hours were flexible and we were allowed to do Work From Home.

Academic courses relevant to the project : OOP, Computer Programming

Name: ADITYA R GOYAL(2019B2A81443H)

Student Write-up

PS-II Project Title: Delivery Date Optimization using Machine Learning & Including Holidays to Optimize delivery dates.

Short Summary of work done during PS-II : I implemented multiple APIs in AWS Lambda packages and also worked on Web server which connects Lambda to UI. Lambda APIs were tested using Amazon's API gateway. I also worked on AWS EMR to write jobs which allows to work with Data Frames and use SQL functions. Another service which I worked upon was Step function which lets us orchestrate multiple AWS services into serverless workflows so that you can build and update applications quickly. I also worked on Amazon S3 (Simple storage service) to create buckets through CDK changes. I also had the opportunity to work on making changes to Code Pipelines which my team owned.

Tool used (Development tools - H/w, S/w) : IntelliJ IDEA, Git, Pipelines, AWS Lambda, API gateway, AWS EMR, AWS Step Function, DynamoDB, S3.

Objectives of the project : To optimize the delivery dates using the previous data of deliveries and also including holidays to further optimize the delivery dates.

Major Learning Outcomes : Through my PS at Amazon, I learnt how to write production quality code and improved my coding skills in general. I got to learn a lot about AWS services like Lambda, Elastic MapReduce (EMR), Step Function. I also learnt about the whole coding workflow at

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work environment is positive and there is a culture of respect among people. All the team members are very supportive which helped me in professional development. The physical workspace is comfortable and well designed, promoting collaboration and innovation. There are ample opportunities for skill development and I felt motivated and engaged at all times.

Academic courses relevant to the project : Object Oriented Programming

Name: UDAY SEHGAL(2019B2AA1089G)

Student Write-up

PS-II Project Title: Development of a full-stack console

Short Summary of work done during PS-II : Build a full-stack console that aggregates calls from various places in one console. The API was employed with server side pagination to limit tps on dependent services.

Tool used (Development tools - H/w, S/w) : Java, React, Mockito, AWS

Objectives of the project : Build a full-stack console (API and UI)

Major Learning Outcomes : Good coding practices, how to write production level code, testing

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working environment was very good personally. Working hours were usually 11-6 (flexible). Company expected me to finish project in 6 months. Mentor and manager were both very helpful and ready to chip in whenever advice was needed. People are also helpful but culture and work environment depends on team. Good place to start in my opinion. Even if you do not know specific tech-stack, there are resources available that will ensure you are upto speed.

Academic courses relevant to the project : Object Oriented Programming, Computer Programming, Data Structures & Algorithms

Name: OWAIS ALI(2019B3A30490G)

Student Write-up

PS-II Project Title: Integration of ML models

Short Summary of work done during PS-II : Integrated Machine Learning models to Amazon production services (MLOps)

Tool used (Development tools - H/w, S/w) : Amazon Internal tools

Objectives of the project : Integrate ML models to our production service

Major Learning Outcomes : Java

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Friendly working environment

Academic courses relevant to the project : None

Name: HARITARTH BHARDWAJ(2019B3A70544G)

Student Write-up

PS-II Project Title: Finalize Pending TARs and Billings and Payments Gamma Setup and Andes Data Pipeline updation

Short Summary of work done during PS-II : Meticulously addressing TAR backlog due to code bugs has enhanced data integrity, compliance, and operational efficiency in tax audit processes. The implemented script efficiently converts pending TARs to finalized status, providing an additional layer of security. The establishment of the Gamma stage in the Billing and Payments (BnP) stack setup is a significant milestone, addressing challenges in unstable beta environments. The Gamma stage creates a stable testing environment, mitigating disruptions

caused by environment-related issues. Benefits include fewer disruptions, scalability in automation testing, and time savings on fixing beta-specific environment issues. The BnP Gamma Stack Setup Task aligns with the project's goal of optimizing operational efficiency and delivering a robust product. For the Andes data pipeline updation task, implementing the "Deleted" field for tracking Cash on Delivery (COD) billing transactions enhances transparency and analytical depth within SWA's payment ecosystem. This equips leadership with crucial insights into COD payment dynamics, shedding light on transaction failures and alternative payment methods. The newfound ability to gauge different payment modes amplifies the team's understanding of customer behavior and facilitates more informed strategic decisions.

Tool used (Development tools - H/w, S/w) : Java was used to write the script for both the Finalize Pending TARs task and BnP Gamma stack setup Amazon's proprietary version management system was used for version control. Amazon's proprietary API platform was used to call the endpoints to check

Objectives of the project : 1) Work with the tax team to get the pending TAR data. Provide them with appropriate filters to query their TAR data. Decide on the inputs required for the finalization function. Write a script to finalize the pending TARs. Sanity testing. 2) Building Gamma stack for 4 services under Billing and Payments that gives us an end to end testing environment between all of SWA services and reduces the overhead on beta testing. 3) Modify the Lambda function that feeds the data to Andes publisher SQS by adding another field to show deleted status. Modify the Andes table schema. Modify the BDC loadjob. Modify the EDX Client schema.

Major Learning Outcomes : Meticulously addressing TAR backlog due to code bugs has enhanced data integrity, compliance, and operational efficiency in tax audit processes. The implemented script efficiently converts pending TARs to finalized status, providing an additional layer of

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Fast-paced but balanced working environment that enables maximum productivity. Having WFH flexibility cuts down on the time commuting to office thereby adding more hours to actual productive work. The manager ensured everyone in the team was treated equally similar to that of a flat-hierarchy

workspace. The infrastructure and the offices were equipped with everything an employee could need be it recreational game rooms, in-office cafeterias or wellness sleeping rooms. The company expectations are high but not out worldly, good honest work, 8 hours a day is expected from interns.

Academic courses relevant to the project : Operating Systems, Computer Networks, DSA

Name: PULLURI SAKETH(2019B3A70599H)

Student Write-up

PS-II Project Title: Median Regeneration Operation

Short Summary of work done during PS-II : I had 2 ramp up tasks to understand the team's codebase. Then, I moved on to one small task and a small project which involves adding new usecases in the backend. Afterwards, I had to work on the main project which Involves adding a new feature on a AWS lambda function which handles the backend logic (This also involves AWS resources like SNS, API Gateway and DynamoDB). Then, I updated the frontend code to add new React Components to handle file uploads, processing the file input and downloading it. Later, I moved on to Low Level Design of another project which Involves pipelines and Automation of regular Operations in teams services.

Tool used (Development tools - H/w, S/w) : IntelliJ IDEA, Internal Tools at Amazon

Objectives of the project : Adding a feature to the internal website - Frontend and Backend

Major Learning Outcomes : 1. Working in an SDLC environment

2. Frontend - React and internal libraries at Amazon
3. Backend - Spring Framework, Dagger, Guice
4. Unit Testing - JUnit, Mockito

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : My team was highly collaborative and fast paced. My manager initially pushed me a lot but later the expectations for tasks were normal and achievable for me. I loved the culture at Amazon and liked working at it.

Academic courses relevant to the project : Object Oriented Programming, Data Structures and Algorithms, Database Systems, Derivatives and Risk Management

Name: [Tarun Chordia\(2019B3A70611G\)](#)

Student Write-up

PS-II Project Title: ElasticSearch Attribute Reduction

Short Summary of work done during PS-II : The first phase involved deep-diving the service to find out the required attributes. The next step was to design various approaches to carry out the activity. This involved extensive research and the final methodology adopted was using `_reindex` API through Kibana console. Since this was a very unusual approach and none of the teammates had any idea about this kind of methodology, it was a great learning experience about ElasticSearch and Kibana in general. The next step involved devising disaster recovery strategies to make sure no data is lost during the activity and the customers aren't impacted. Finally, after the deployment, the instances were downscaled to cater to the trimmed data.

Tool used (Development tools - H/w, S/w) : Java, TypeScript, Kibana, Git, AWS Services like ElasticSearch, SNS, SQS and S3

Objectives of the project : One of the services the team owns uses ElasticSearch to index data for faster search and download functionality. The indices older than January 2023 contained

unnecessary attributes which increases the instance cost. The objective of the project is to run a script in prod. and trim the records such that it contains only the required attributes.

Major Learning Outcomes : Collaborative Work Approach, ElasticSearch, Kibana, Reindexing, Disaster Recovery in case of failure, downscaling instances as per the requirements

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : During my Amazon internship as a Software Developer, the working environment was dynamic and collaborative. The open-office layout facilitated seamless communication, fostering a culture of continuous learning and innovation. Regular team meetings and mentorship opportunities empowered interns to take ownership of tasks.

Expectations from the company were aligned with Amazon's customer-centric philosophy. Interns were encouraged to contribute actively to projects, demonstrate adaptability to evolving technologies, and exhibit a proactive problem-solving attitude. Amazon provided a structured learning environment with resources, training programs, and mentorship for professional development.

The company's commitment to diversity and inclusion created a workplace that celebrated varied perspectives. Emphasis on leadership principles, customer obsession, and long-term thinking set the tone for a challenging yet rewarding internship. In conclusion, my time at Amazon offered a rich working environment, combining innovation and collaboration, while expectations inspired interns to excel with ample support for personal and professional growth.

Academic courses relevant to the project : OOP, DBMS, OS, CN

Name: [SRAJAN GUPTA\(2019B3A70612G\)](#)

Student Write-up

PS-II Project Title: Revamping amazon's return page

Short Summary of work done during PS-II : Integrated various new components in returns page of amazon. Migrated functionalities from an existing service. To move from monolithic architecture to microservices architecture.

Tool used (Development tools - H/w, S/w) : HTML / CSS / JAVASCRIPT / JSP for frontend, Java for backend, Scala for migration purposes, Docker for setting up local environment (containerisation), GitFarm (amazon internal tool) for version control, Brazil (amazon internal tool) for developing and bu

Objectives of the project : To enhance UI of returns page to improve customer experience

Major Learning Outcomes : Better understanding of Git.

Java

Frontend development

Backend development

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Work environment is highly team dependent.

When the project deadline was approaching, everyone in the team was working a lot to meet the deadlines, otherwise a lot of plans start to fail.

The team members are supportive of you as an intern.

The company expects you to finish the work in time assigned, time needed is decided mutually or by the intern.

Academic courses relevant to the project : OOPs, SDPD,

Name: MOHTA ANSH KRISHNAKANT(2019B3A70674G)

Student Write-up

PS-II Project Title: Carrier preference tool

Short Summary of work done during PS-II : Created a front end component, also designed and created API for the component

Tool used (Development tools - H/w, S/w) : Many

Objectives of the project : .

Major Learning Outcomes : Learned many things

Details of Papers/patents : Many

Brief Description of working environment, expectations from the company : .

Academic courses relevant to the project : None

Name: [VARTIKA GUPTA\(2019B3A70729H\)](#)

Student Write-up

PS-II Project Title: Authz service enhancements

Short Summary of work done during PS-II : The problem is the need for an end-to-end (E2E) backend integration test using TestNg that can seamlessly invoke Apis of our Backend Service and check whether they are working correctly or not. Currently , testing approaches being followed often require manual invokation, leading to time- consuming and error-prone processes. There is a clear need for an automated solution that can simplify the invokation and maintenance of E2E tests, making them more efficient and reliable.

Tool used (Development tools - H/w, S/w) : TestNg

Objectives of the project : Integration tests for the Backend service

Major Learning Outcomes : AWS, Builder design patterns, Dagger, Testng

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment was flexible at Amazon, with a 3 day per week wfo rule.

Academic courses relevant to the project : OOP, OS, Computer Networks

Name: [ALAPATI NAGA TARUN KUMAR\(2019B3A70733H\)](#)

Student Write-up

PS-II Project Title: Self serve clustering test stack

Short Summary of work done during PS-II : Developing self serve clustering in test stack and creating webpages for rules ingestion

Tool used (Development tools - H/w, S/w) : React,Java,AWS

Objectives of the project : Developing Self serve clustering in test stack

Major Learning Outcomes :

1. Designing an e2e application
2. Coding patterns and best practices
3. Agile development

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The company uses agile methodology of development where all our tasks are planned before hand for every 2 weeks in form of sprint planning and we are expected to complete the tasks with proper deep dive, good coding practices.

Academic courses relevant to the project : DSA,OOPS,CN,OS, SOFTWARE DEVELOPMENT

Name: TUSHAR SHRIMALI(2019B4A70266G)

Student Write-up

PS-II Project Title: Helios Agent for Manifesting Service

Short Summary of work done during PS-II : Helios, a platform designed to address issues related to package flow within transportation networks. As a part of this project, we will onboard a service as one of term service on Helios. This integration will enable Helios to proactively identify and respond to failures by extracting event data from the Manifesting Service. The project aims to display these events and their corresponding actions within the Helios user interface (UI), providing users with a clear view of failure events directly on the Helios platform. Additionally, the Helios UI will offer mitigation actions in response to these failures, empowering users to take self-service mitigation steps through the user-friendly interface.

Tool used (Development tools - H/w, S/w) : IntelliJ, AWS, Java, Guice, Mockito, Spring Framework

Objectives of the project : Develop Helios, which is a platform designed to address issues related to package flow within transportation networks.

Major Learning Outcomes : Developed a deeper understanding of writing scalable and industry standard code adhering to design principles and architecture. Also learnt about dependency injection, object oriented principles and AWS.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was good with defined goals and deliverables. Mentor and teammates were helpful throughout the course of the internship while also putting you through challenges.

Academic courses relevant to the project : DSA, OOP

Name: ROHAN KHOSLA(2019B4A70734G)

Student Write-up

PS-II Project Title: Addition of Other Delivery Instructions on Customer Delivery Profile Page

Short Summary of work done during PS-II : The Customer Delivery Profile page on Amazon serves as a platform to acquire delivery details that go beyond the standard information provided by customers. This page underwent a modification to incorporate an additional attribute enabling customers to specify unique delivery instructions for the courier, such as instructions to ring the doorbell, knock loudly, or wait at the doorstep for an extended period. The inclusion of this feature aimed to enhance the communication between customers and delivery agents. Furthermore, a global update was implemented to include information about national holidays worldwide, ensuring that Amazon carriers abstain from delivering on those specific days. This particular enhancement necessitated a restructuring of the existing backend code to accommodate the new functionality seamlessly. Additionally, during the internship, there was active involvement in resolving various issues related to pipelines. Instances of build and compilation failures were addressed through tasks such as resolving configuration conflicts and introducing additional checks for pointers. These efforts contributed to the overall optimization and efficiency of the backend processes, ensuring a smoother and more reliable system for both customers and delivery operations.

Tool used (Development tools - H/w, S/w) : IntelliJ, Amazon Issues, Amazon Pipelines, Apollo Overrides

Objectives of the project : Add a new attribute on the Customer Delivery Profile Page to provide customers with accessible options for receiving their delivery

Major Learning Outcomes : - Full stack development

- Learning JQuery and JavaScript
- Using Java for backend
- Using Scala for both front end and back end
- Writing unit tests and UI integration tests

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Amazon expects end-to-end ownership of products and features and expected me to add a new feature to Amazon's retail website. End-to-end ownership implied that I had to do front-end, backend development and testing before sending to Quality Assurance. This also included writing unit tests and integration tests for the feature.

The company also expects that if you're in charge of a feature, then any communication regarding the feature will be handled by you, regardless of position.

Academic courses relevant to the project : DBMS and OOP

Name: RISHI KHANDELWAL(2019B4A70755G)

Student Write-up

PS-II Project Title: Data Transformer

Short Summary of work done during PS-II : Designed and implemented a high-performance database migration package for GB, orchestrating a smooth transition from RocksDB to Amazon

Neptune for accelerated updates and enhanced functionality integration. • Rectified address database bugs, boosting data quality and subsequently enhancing the overall delivery system. • Designed, implemented, and deployed a service using AWS CDK to optimize database updates for a client, significantly improving data synchronization efficiency. Developed the corresponding code for seamless integration. • Modified the address data model to accommodate new place types and adapted existing packages to seamlessly integrate the updated place type.

Tool used (Development tools - H/w, S/w) : IntelliJ, AWS

Objectives of the project : Transform RODB data into Amazon Neptune format.

Major Learning Outcomes : Java, AWS Lambda, batch jobs

Details of Papers/patents : Nothing like that

Brief Description of working environment, expectations from the company : Really good working environment good team

Academic courses relevant to the project : Nothing

Name: DHRUVA RAJA(2019B4AA0693G)

Student Write-up

PS-II Project Title: Manifesting Service in Core Transportation Technology

Short Summary of work done during PS-II : Worked on tasks in the Manifesting domain in Amazon's ShipTech organisation. My work involved 1. Configuring the document rendering engine to handle data contexts from S3 sources. 2. Working on tasks in the main manifesting service for onboarding new document types, this included adding CSV Export, aggregating cumulative and page values for printable invoices as well as modifying retry strategies for dependent services. 3. Building an on-call helper bot which would fetch failure details for on-call

engineers and post it on the ticket. This would save the time of on-call engineers as well as allow them to debug issues faster.

Tool used (Development tools - H/w, S/w) : Java, Guice, AWS SQS, AWS DynamoDB, AWS CloudWatch

Objectives of the project : 1. Configuring document rendering engine for S3 data sources. 2. ManifestingServiceV2 Document Type Migration 3. TTBot as On-Call Helper

Major Learning Outcomes : Java, Backend Development, AWS SQS, AWS DynamoDB, AWS CloudWatch

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good working environment. Would have stand up meetings every day around 12pm where the team would discuss what they worked on the previous day, what they would be doing the following day as well as any blockers. If there would be blockers the team would help. Otherwise also the team could be contacted at any time regarding project requirements and they would always be helpful.

Academic courses relevant to the project : Object Oriented Programming, Data Structures and Algorithms

Name: SHIVAM VIKRAM CHADHA(2019B4AA0704G)

Student Write-up

PS-II Project Title: Introducing Throttling and Secure Logging

Short Summary of work done during PS-II : nroducing Throttling – Task was to add throttling to service. A Tier-1 service primarily called by service A and service B at SLAM time to fetch the carrier information to vend for the package labels and manifest. To ensure our services follow the

highest standards and meet the expectation of near 100% availability, we introduced throttling to protect GCRS and ensure one bad actor doesn't impact our other clients. I started by coming up with potential solutions and decided to go with dynamic throttling solution and AWS AppConfig for hosting policies. For this, I created a throttling engine, added that to the service chain, and added AppConfig caching client to fetch and store policies. We made the necessary policies and their IAMs for all regions and stages in AppConfig. Deployment is planned post-peak; I have created a deployment plan with the required steps and a runbook for the on-call. Secure Logging – Task was to secure customer data stored in service logs. Service stores customer data in logs. It includes fine location data like delivery address and postal codes. To meet Data Classification Standards, we have to introduce a data encryption solution to the service. I created a design document with potential solutions and decided to move forward with end-to-end encryption solution. After implementation, all data will be encrypted before logging, and encrypted data can be decrypted on the service host if required.

Tool used (Development tools - H/w, S/w) : Java, Git, Spring, AWS,

Objectives of the project : Throttling is suggested for services with multiple clients, where excess needs of one client can affect the service's response to other clients. To ensure efficient distribution of resources throttling is being introduced to service. All customer data must be Held to the highest security standards at all times. To follow these standards, an encryption solution is required to secure customer data for logging purposes. The data is logged to help in debugging, so sensitive data must be encrypted before being logged. A custom logging solution has to be implemented, that encrypts sensitive data only, and logs other data directly. Along with this a decryption mechanism must be implemented, if ever a need may arise.

Major Learning Outcomes : - Keeping Customer Obsession at the core of all development ideas.
- Learned how to work in a team environment.
- Learned about the software development process in a large industrial environment.
- Learned about work ethics and individual responsibility a

Details of Papers/patents : N.A

Brief Description of working environment, expectations from the company : As an intern at Amazon, you'll immerse yourself in a dynamic and innovative working environment

characterized by cutting-edge technology and a relentless commitment to customer-centric solutions. Expect to be part of cross-functional teams, collaborating with experts across various domains, including e-commerce, cloud computing, and digital entertainment. Amazon values a culture of ownership, where interns are encouraged to take initiative, contribute fresh perspectives, and actively participate in problem-solving. You can anticipate a fast-paced, challenging environment that fosters professional growth and creativity.

As an intern at Amazon, realizing the scale of operations and how to influence this scale. To use and learn about various tools and technology used in MNCs.

Academic courses relevant to the project : CP

OOP

DBMS

DSA

Name: AKSHAT RAVINDRA KUMAR SINGH(2019B4AA0842H)

Student Write-up

PS-II Project Title: Create an internal portal to onboard clients onto the throttling framework

Short Summary of work done during PS-II : At Amazon, I worked in the Shiptrack team, which manages a suite of services that track the movement of packages through Amazon's transportation network. I worked on a migration project for the Direct Fulfillment team's manifest messages (information on the label of Amazon packages). I had to set up a new SQS (Simple Queue Service) infrastructure, code a new message processor in Java, and perform unit testing. Then, I deployed the changes into production and carried out the entire migration project. Additionally, I created the high-level and low-level designs for an online portal where other Amazon teams can submit their TPS (Transactions Per Second) requests to call the APIs (Application Program Interface) of services owned by my team. The admin from my team can approve or deny the requests, and the status will be updated accordingly. I implemented the project using React, Typescript, AWS API Gateway, AWS Lambda, and AWS DynamoDB.

Tool used (Development tools - H/w, S/w) : Java, AWS, Git, React, Typescript

Objectives of the project : Described in summary

Major Learning Outcomes : Software Engineering

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : Object Oriented Programming

Name: [CHITLA VISHNUCHARAN REDDY\(2019B4AA1384H\)](#)

Student Write-up

PS-II Project Title: Self- Serve Legal Identifiers and DSAR Onboarding

Short Summary of work done during PS-II : I designed and implemented a portal that involved both frontend and backend development. Additionally, I also did a project focused on enabling customers to access their data collected and stored by the organization. This involved the entire process from design to implementation and testing.

Tool used (Development tools - H/w, S/w) : Java, Springboot, AWS (SQS, SNS, EC2, IAM etc.), Git

Objectives of the project : 1. To make a Portal which enables customers to update legal identifiers, 2. To enable customers to access their data collected and stored by the organisation.

Major Learning Outcomes : Java programming skills, gaining comprehensive knowledge of best coding practices and exception handling techniques, AWS resources like SQS, SNS, IAM roles, EC2 instances etc

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work environment was positive, providing sufficient time for acquiring necessary skills. The assigned projects were designed to foster comprehensive development and offer extensive exposure. Additionally, we were entrusted with project ownership, fostering a sense of responsibility, and ample mentor support was readily available.

Academic courses relevant to the project : OOPS, DSA

Name: ISHVITÂ BHASIN .(2019B5A70226P)

Student Write-up

PS-II Project Title: Data Transformer and hierarchy Generator for Addresses

Short Summary of work done during PS-II : I got to work on multiple data transformers for ingesting the data in the database of addresses. The business logics were different for all transformers and were implemented with complete Unit testing using Junit and mockito framework. Also worked on building the service for generating a hierarchy from the addresses in AWS Neptune. Also build the new pipeline for the service.

Tool used (Development tools - H/w, S/w) : IntelliJ, Java8, Spring Boot, Google Guice, Junit and Mockito Framework, AWS - S3, IAM, Lambda, VPC

Objectives of the project : To implement the business logic for ingesting the data of addresses of special delivery places like mailroom, reception and locker rooms. To build the service of generating the hierarchy of places data and updating the address of the place with the newly provided data.

Major Learning Outcomes : Spring boot, google guice , junit testing AWS services , cloud development kit

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is quite supporting and a lot to learn from. The GeoSpatial team handles a major component of Amazon business and services by handling the addresses of the deliverables.

Academic courses relevant to the project : Data Structure and Algorithms, Object Oriented Programming, Database Systems.

Name: GUPTA DEVESH PRAVEENKUMAR(2019B5A70641G)

Student Write-up

PS-II Project Title: Detail Page Development: Buying in Bulk Tool Enhancements

Short Summary of work done during PS-II : I have worked on the end-to-end feature creation and deployment of a feature on Amazon Business Detail Page. The new feature replaced the existing Buying in Bulk link with a new link fetched from a new AAPI sub resource. Since I owned it completely, I was involved in full-stack development. Having worked on Backend I learnt how to fetch data using Datapath Query Language from DynamoDB. Having worked on Frontend, I also learnt about JSP templates and AJAX framework.

Tool used (Development tools - H/w, S/w) : Java, IntelliJ, JSP template, Git, Datapath Query Language(DQL), AJAX framework

Objectives of the project : My goal was to develop a new feature to replace the existing "Buying in Bulk?" link with a new "Request quote for XXX+" link below the AddToCart button on Amazon Business Detail Page.

Major Learning Outcomes : Technical skill: Full-stack developer experience and technologies like DQL,DynamoDB,JSP

Functional skills: My work involved a lot of interaction and collaboration with partner-teams that improved my presentation and communication skills.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is very motivating and the community is very helpful where you can find a solution to literally every problem you face in your internship . Every intern in Amazon is treated at par with an SDE-1 and the expectations are set accordingly.

Academic courses relevant to the project : Object Oriented Programming, Database Management Systems

Name: RUCHIR PARMANAND KUMBHARE .(2019B5A70650P)

Student Write-up

PS-II Project Title: Backend development for Audit Trail

Short Summary of work done during PS-II : Worked with the responsibilities of a SDE-1 at Amazon, participating in Sprints & daily standups. Was given a variety of backend tasks, involving adding new features to existing services, maintaining pipelines, fixing bugs.

Tool used (Development tools - H/w, S/w) : Internal Amazon tools

Objectives of the project : Develop the backend for adding Audit Trail in an already existing service

Major Learning Outcomes : Software Development Industry practices, CI/CD pipelines

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : I worked in the Passport team of Core Transport Technology,.The work environment, in my team, was not very supportive towards interns. The manager had unrealistically high expectations, akin to a SDE-1 with ~1-2 years of experience. The team members did not want to collaborate or help our the interns. The mentor provided was least interested in providing guidance. Most of the learning, was through self-study. Not a good team to work in as an intern with very little prior experience.

Academic courses relevant to the project : Object oriented Programming, Database Management, Data Structures & Algorithms

Name: [Vatsal Pattani\(2019B5A70697P\)](#)

Student Write-up

PS-II Project Title: Browsability and Conflict avoidance for Rules Configuration

Short Summary of work done during PS-II : Worked on Amazon's internal website VPE. Worked mainly on 4 projects. 1. PM Browser: created necessary Front end, REST API endpoint, DDB integration to make PM Restrictions Rules browser for customers. 2. Proposal Rollback: studied existing Proposal workflow system and suggested a new design document (HLD, LLD) to solve some fundamental issue with the existing system. learnt Design patterns and primary system design. 3. DDB to S3 Transition: Worked closely with Lambda service to store payload to S3 instead of DDB to overcome size constraints. 4. Other Usability improvements on VPE website: Solved many tickets raised by customers. Added features to make website more user friendly.

Tool used (Development tools - H/w, S/w) : Java, SpringBoot, React-redux, HTML/CSS, TypeScript, AWS Lambda services, CloudWatch, DynamoDB, S3 Buckets

Objectives of the project : Improve Browsability for customers on our website. Solve fundamental issue with existing Proposal Workflow system. Other major and minor tasks for improvement of user experience.

Major Learning Outcomes : Java, Spring Boot, React-Redux, HTML-CSS, OOP, DynamoDB - NoSQL DB, S3 buckets, AWS services like Lambda, CloudWatch. RESTful APIs. Smooth code deployment through pipelines. Design Patterns, good coding practices to write more readable, maintainable code.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : - Hectic: have to work 8-10 hours per day, 5 days a week.

- A bit steep learning curve in the beginning if you haven't worked with Complex code, REST API, AWS services etc.
- Colleagues and manager were very friendly and approachable. Guided through many hurdles.
- Work is pretty interesting. I got lot of opportunities to solve complicated problems faced by the team. You will get lot of opportunities to raise the bar.
- At the end learnt a lot of skills and made good connections.

Academic courses relevant to the project : OOP, DBMS, CP

Name: [AJINKYA ANIL SHINGANE\(2019B5A71375H\)](#)

Student Write-up

PS-II Project Title: Migration of Services

Short Summary of work done during PS-II : During my internship, I undertook a comprehensive project centered around the migration of services, aiming to streamline and modernize the existing infrastructure. The primary goal was to facilitate a smooth transition from legacy systems to more efficient and scalable solutions. The project encompassed several phases, starting with a

meticulous analysis of the current services, their functionalities, dependencies, and performance benchmarks. Subsequently, a strategic roadmap was formulated, outlining the step-by-step migration plan, minimizing disruptions while optimizing the operational workflow. Utilizing cutting-edge technologies and frameworks, I collaborated with the team to architect and deploy new services, ensuring compatibility and integration with the existing environment. Rigorous testing procedures were implemented at each stage to validate functionality, security, and performance, ensuring a seamless transition. Moreover, extensive documentation and knowledge sharing sessions were conducted to empower the team with the necessary skills to manage and maintain the migrated services effectively.

Tool used (Development tools - H/w, S/w) : Amazon Internal Tools (Can't disclose)

Objectives of the project : To migrate data over to services

Major Learning Outcomes : The service migration project improved my planning, analysis, and integration skills, helping me adapt better to different technologies.

Details of Papers/patents : No such papers drawn.

Brief Description of working environment, expectations from the company : At Amazon, the work environment is characterized by its fast-paced nature and a culture that values innovation and productivity. However, there's an informal perception that expectations can be quite high. The culture emphasizes ambition and hard work, which could lead to some individuals feeling pressure to consistently excel. There's an inherent expectation for quick adaptation and significant contributions, which might be challenging for those who are new to the environment or adjusting to different roles. This can create a demanding atmosphere, fostering a need for individuals to consistently meet or surpass expectations, potentially leading to a bit of stress in some cases.

Academic courses relevant to the project : OOPS, DBMS, DSA, Software Engineering

Name: SAMARTH UPADHYAY(2019B5AA0738G)

Student Write-up

PS-II Project Title: Enhancement of SamplingDB

Short Summary of work done during PS-II : Updated the VersionSet, Integrated SamplingDB with LabelSelfServe, Enriched SamplingDB with MFN data, Proposed sample UI for SamplingDB.

Tool used (Development tools - H/w, S/w) : IntelliJ, Git, VSCode, AWS Console.

Objectives of the project : To improve SamplingDB

Major Learning Outcomes : Software Development and LP's

Details of Papers/patents : LSSWS VersionSet Upgrade, Enrichment of SamplingDB with MFN Data.

Brief Description of working environment, expectations from the company : Amazon has a very nice working space with all the facilities needed. Agile methodology is followed for development.

Academic courses relevant to the project : OOP

Name: SAKSHAM GUPTA .(2020A3PS0361P)

Student Write-up

PS-II Project Title: FetchCustomerData, dataEncryption

Short Summary of work done during PS-II : I made 2 full stack features using Java and React. First was to fetch customer details and other was of encryption . Also I made the backend in AWS LAMBDA

Tool used (Development tools - H/w, S/w) : Java , react , AWS

Objectives of the project : 1- To fetch Customer data from various ddb tables

Major Learning Outcomes : Learnt AWS

Details of Papers/patents : Nothing

Brief Description of working environment, expectations from the company : Great working environment , pressure is very team dependent, ask expectations well before.

Academic courses relevant to the project : OOPS

Name: AKASH RANJAN(2020A3PS1069G)

Student Write-up

PS-II Project Title: Full CD of Pipeline

Short Summary of work done during PS-II : To fix the redundant DynamoDB calls for the Logistic Service ID' s in the Logistic Service Metadata table that are not present in the cache and DynamoDB tables.Achieving Full CD for the OdysseyService pipeline.Adding load test.

Tool used (Development tools - H/w, S/w) : AWS, Google Guava Cache, Java 8 , typescript

Objectives of the project : To fully automate the CI/CD pipeline of the service

Major Learning Outcomes : Major learning were Amazon Web Services, TypeScript, JavaScript, and JAVA 8 features.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment is competitive and requires up to date work proceedings for the given task.

Academic courses relevant to the project : OOPS,DSA,DBMS,OS

Name: SHREYASH SINGH(2020A3PS1252G)

Student Write-up

PS-II Project Title: 1) SELF-SERVE OF EMAIL NOTIFICATION TEMPLATES AND CONFIG FOR PASSPORT NOTIFICATION SYSTEM 2)ONE-CLICK USER INVITATION ON CARRIER LOGISTICS

Short Summary of work done during PS-II : An internship with Amazon as a Software Developer Engineer provides an extensive learning experience that spans a variety of technical proficiencies, collaborative techniques, and professional development. Interns are afforded the chance to develop an advanced level of proficiency in essential programming languages, acquire valuable understanding of cloud computing and AWS services, and fully engage with Agile methodology. Additionally, the internship cultivates a solid grasp of DevOps, security, and user-centric design, with a focus on the significance of proficient communication and flexibility. Interns are strongly encouraged to exemplify Amazon's leadership ideals and actively contribute to the development of creative solutions. Overall, an internship at Amazon provides aspiring software developers with the necessary knowledge, abilities, and mindset required for a prosperous and impactful career in the ever evolving realm of technology.

Tool used (Development tools - H/w, S/w) : Frontend- JavaScript, Meridian, React.js, Angular, Redux, TypeScript etc. Backend- Amazon DynamoDB, Amazon Web Services (AWS), Java, Amazon API Gateway, Amazon CloudWatch etc.

Objectives of the project : 1)Make a self-serve UI for Passport & Carrier Logistics users to configure Notification templates and also provide mechanism to add or update an event

configuration data on Passport Notification System (PNS). 2) Changing two-step process of Invitations and Permissions to one step for a new user in Carrier Logistics. Admin user should be able to send invites and request permissions to the invited users in a single step.

Major Learning Outcomes : As a Software Developer Engineer intern at Amazon, some of the potential learning outcomes are:

- 1) Proficiency in Full stack Development
- 2) Understanding of Amazon's Technology Stack
- 3) Agile Development and Collaboration
- 4) Cloud Computing and AWS
- 5) DevOps

Details of Papers/patents : I completed two projects allotted to me. Also worked a bit on third project for some time. No papers were presented.

Brief Description of working environment, expectations from the company : At Amazon, software development follows a highly structured and agile process. Teams work collaboratively using Agile methodologies, such as Scrum, to deliver value to customers rapidly. Continuous integration and continuous deployment (CI/CD) pipelines enable automated testing and seamless deployment. Amazon's "two-pizza teams" philosophy promotes small, autonomous teams with ownership over their services. Rigorous code reviews, robust monitoring, and a strong focus on customer feedback drive the development process. Security is paramount, with a commitment to secure coding practices and regular security assessments. Amazon's software process emphasizes innovation, scalability, and customer obsession, ensuring that software products meet the highest standards of quality and efficiency.

Academic courses relevant to the project : OOP, DSA, DBMS

Name: ISHAN GUPTA(2020A3PS1451G)

Student Write-up

PS-II Project Title: CARS troubleshooting tool and Account ID Self-Serve UI

Short Summary of work done during PS-II : Delivered the Account id self serve UI. Completed the HLD and LLD for the CARS Troubleshooting tool so that the implementation can be carried forward by some other person after me.

Tool used (Development tools - H/w, S/w) : AWS resources like lambda, S3, DD and

Objectives of the project : The aim was to build and enable the CREATE and EDIT UI functionalities for the Account Id term, so that the Self-Serve feature could be enabled in production, to be used effectively to support carrier migrations next year onwards. This is a highly essential feature that would reduce our team's migration efforts and burden.

Major Learning Outcomes : I had the opportunity to develop and enhance a diverse set of skills, ranging from technical proficiencies to effective collaboration and problem-solving. Working extensively with React JS and Atomic Design structure while building the Create and Edit UI

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was quite enriching with every individual around us helping us clear our doubts and issues. Amazon's expectations from us were quite clear, which basically were to deliver the project and its related tasks in a timely fashion.

Academic courses relevant to the project : OOP, FDSA, Computer Networks, DBMS, OS

Name: TUMMALAPALLI DINESH(2020A3PS1754G)

Student Write-up

PS-II Project Title: Reduction in MCM time through Approval Workflows, Clean Tote Frontend, Amazon Translate Onboarding

Short Summary of work done during PS-II : During my internship, I cultivated a comprehensive skill set that spanned front-end, back-end, infrastructure, AWS, and monitoring, significantly elevating my proficiency in various facets of software development. In the realm of front-end technologies, I immersed myself in React, Redux, and Redux-Observable, acquiring expertise in state management and the art of crafting responsive interfaces. On the back end, I implemented robust Java-based business logic, ensuring seamless communication between front-end and back-end components. Venturing into the realm of dependency injection, I honed my skills with GUICE, executed impactful infrastructure changes using ION, and adeptly configured Docker environments through YAML. In the expansive domain of AWS services, I effectively utilized CloudWatch, CloudFormation, Translate, SQS, DLQ, VPC, and IAM, showcasing a proficiency in deploying sophisticated cloud-based solutions. My active involvement in monitoring and metrics included efficiently tracking services through portals and alarms, with the added utilization of Carnivals for streamlined issue resolution. This internship not only provided a dynamic environment but also served as a catalyst for enhancing my capabilities through hands-on experience across the entire software development spectrum. Beyond solidifying my technical skills, it fostered a holistic understanding of software development—from intricacies in front-end interfaces to the intricacies of back-end logic, infrastructure intricacies, and the nuanced landscape of cloud-based solutions. The experience has equipped me with a well-rounded skill set and a deep appreciation for the interconnected elements that drive effective software development.

Tool used (Development tools - H/w, S/w) : IntelliJ, AWS, React, Redux, Epic (Redux-Observable), Java, YAML, Docker, Coral Explorer

Objectives of the project : To reduce the time of MCM approval and manual validation steps in deployment, improve sanity testing Build the front-end experience to clean dirty tote feature according to the business team requirements Onboarded an internal Amazon service to Amazon Translate to translate ASIN titles

Major Learning Outcomes : This internship provided a well-rounded skill set across front-end, back-end, infrastructure, AWS, and monitoring, enhancing my capabilities in diverse aspects of software development.

Front-end Technologies:

Explored React, Redux, and Redux-Observable.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment was excellent, they were clear on the outcomes they were expecting for an intern. The team members and the company culture were very inclusive in nature. The whole workspace was supportive towards working

Academic courses relevant to the project : Object Oriented Programming

Name: MILIND SINGH RAO(2020A3PS1765G)

Student Write-up

PS-II Project Title: Amazon's Credit Note Processing Re-architecture

Short Summary of work done during PS-II : The initial Excel file was uploaded by the auditors through the UI. A lambda then takes care of uploading the file to S3 and passing the bucket and key to the backend service. The backend triggers a State Machine post performing some business validations on the Excel file. A lambda is called by the state machine which handles the batching of the file into smaller units that can be processed in parallel using the distributed map activity of the Step Function. Post-processing all these batches are reassembled and uploaded to an S3 using multipart upload to minimize the peak memory utilization of the lambda, at the end of execution an email is sent to the auditor and other downstream indicating success or failure. Multipart S3 upload served as our solution to reassemble batches without the need to rebuild the entire file locally. This approach minimizes Lambda memory costs and reduces reliance on

network stability. With multipart upload, in cases of upload failures, only the affected small batch requires re-uploading, rather than an entire X GB file. S3's multipart upload exposes two APIs: UploadPartCopy and UploadPart. The UploadPartCopy API enables S3-S3 transfers, allowing developers to copy an S3 file as part of a larger upload by specifying the key and bucket. Conversely, the UploadPart API necessitates local file construction by the user. A small Proof of Concept (POC) was conducted to compare the execution times between UploadPartCopy and UploadPart APIs. The results showed that execution time was nearly halved when utilizing UploadPartCopy. Additionally, a potential issue was discovered with multipart upload when the batch size falls below 5 MiB. To mitigate this, A proposed solution involved storing all S3 file keys under this threshold. These files could then be merged locally and uploaded once the 5 MiB size is reached.

Tool used (Development tools - H/w, S/w) : Java, TypeScript, JavaScript, React, AWS

Objectives of the project : The motivation behind the project is introduce a new dispute resolution system that provides more control and visibility to the Amazon auditors, external 3-P carrier and other important stakeholders in the shipping division of Amazon

Major Learning Outcomes : Software development

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The team was supportive and helpful. Confidence was shown by manager in my ability to deliver results.

Academic courses relevant to the project : Object oriented programming, Operating Systems, DSA

Name: BADAL CHANDHARIYAVI(2020A3PS1768G)

Student Write-up

PS-II Project Title: Automation of Inventory Management

Short Summary of work done during PS-II : I added the Inventory Management functionality using which the Program Manager can handle the Inventory by themselves

Tool used (Development tools - H/w, S/w) : React, Java, XML, Redux

Objectives of the project : The objective was to remove tech dependency for managing the inventory

Major Learning Outcomes : Major exposure to full stack development and software development life cycle

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : My team was very supportive and helping. Overall it was a great working environment

Academic courses relevant to the project : Object Oriented Programming

Name: SUHANI MAHAJAN(2020A3PS1798H)

Student Write-up

PS-II Project Title: Federation of Data Source for Enhanced Sample Artefact Generation and Improvement of Beta Sample Development & Trans Forecast Service Enhancements: Version-Specific Forecast Downloads and Localization of Forecast Email Notifications

Short Summary of work done during PS-II : The main project aimed to enhance sample generation in the beta environment by implementing dynamic container IDs, moving away from the previous static trans documents approach. I also worked on data source federation for dynamic container IDs to enhance the manifest-doc sample generation process. Modifications

were made to the download forecast API to address the forecast-related task. I enabled the inclusion of forecast version IDs as input, allowing retrieval of specific forecast versions. In the context of localization, I worked on removing locale information from notification event subcategories in the forecast task. This adjustment accommodated the new localization feature, allowing users to receive notifications in their preferred language if specified or defaulting to English if no preference was provided.

Tool used (Development tools - H/w, S/w) : JAVA, Spring, JUnit, Mockito, AWS

Objectives of the project : Increase the relevance of sample generation by introducing dynamic container IDs, ensuring that the generated samples align with carrier-specific use cases.

Major Learning Outcomes : I had the opportunity to develop and enhance a diverse set of skills, ranging from technical proficiencies to effective collaboration and problem-solving. I learned basic git commands, the basics of cloud computing, dependency injection, and REST API. Hav

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was fast-paced and collaborative. The company fostered innovation, encouraging cross-team cooperation and offering exposure to cutting-edge technologies. Expectations included a proactive approach to problem-solving, adaptability to evolving projects, and a commitment to delivering high-quality results in alignment with Amazon's customer-centric values.

Academic courses relevant to the project : Object-Oriented Programming (OOP), Data Structures and Algorithms (DSA)

Name: RUCHIKA SARKAR .(2020A7PS0016P)

Student Write-up

PS-II Project Title: Multiple Projects (Auto Expand Delivery Instructions, Integrating Auditbook with Transporter Feedback, Unattended Delivery Message in Japan checkout page, Migrating static configurations to a centralized configuration for 3 packages)

Short Summary of work done during PS-II : Multiple Projects (Auto Expand Delivery Instructions, Integrating Auditbook with Transporter Feedback, Unattended Delivery Message in Japan checkout page, Migrating static configurations to a centralized configuration for 3 packages)

Tool used (Development tools - H/w, S/w) : IntelliJ and other internal tools

Objectives of the project : Remove static configurations from source code to reduce code modifications, Automate the process of sending transporter feedback to other team, Show the unattended delivery message to Japan's checkout page, Launch auto expanding feature for delivery instructions in US

Major Learning Outcomes : I got an opportunity to collaborate with many people in my team, enhance my problem solving skills and technical skills.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Team was super supportive and super friendly. They provided assistance at all stages of internship.

Academic courses relevant to the project : Object Oriented Programming, Database Systems

Name: [SIDDHARTH KHANDELWAL .\(2020A7PS0098P\)](#)

Student Write-up

PS-II Project Title: Post Purchase experience for planned spend

Short Summary of work done during PS-II : Worked on customer service website for amazon business customers.

Tool used (Development tools - H/w, S/w) : React, GraphQL, Java and amazon internal tools

Objectives of the project : Onboard Amazon Business customers from planned spend to tail spend

Major Learning Outcomes : React, GraphQL, Java and amazon internal tech.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Work environment is good and lot to learn from such a big tech company. Majority of tech used is internal so time is given to learn.

Academic courses relevant to the project : DSA, OOPS, Operating systems, computer networks

Name: PANKHEDKAR ASHISH MILIND(2020A7PS0126G)

Student Write-up

PS-II Project Title: UI automation and Web App Enhancement

Short Summary of work done during PS-II : Writing UI automation Test cases for a portal. Adding more verification and checks in current tests to consider all the scenarios. Adding more features and migrating config data to AWS forna current web app used for test data creation.

Tool used (Development tools - H/w, S/w) : Selenium, Java, TestNg, Javascript, React, AWS, Typescript.

Objectives of the project : Write all round automated test cases. Add more features and security to existing web app

Major Learning Outcomes : Software Testing

AWS services

Backend development

Details of Papers/patents : None.

Brief Description of working environment, expectations from the company : Good working environment with inclusive people. Helping and Guiding team members one can look upto for help apart from mentor. Company expects to follow and display some leadership principal laid by them. Good coachability and deliverables completed on time are some points to be considered.

Academic courses relevant to the project : None.

Name: ANVESH KUMAR SAWARN(2020A7PS0134G)

Student Write-up

PS-II Project Title: PoM, Migration tasks involving CloudAuth and AAS, CLI commands

Short Summary of work done during PS-II : Learnt how to add pin on map for landing page for Amazon. Learnt how to create new commands, How to go about Migration

Tool used (Development tools - H/w, S/w) : S/w-Apollo, IntelliJ, Coral, CodeBrowser

Objectives of the project : To work on Amazon specific platforms and add new features to them. To migrate current models to newer models like from NAWS to MAWS for better adaptability and overall improvement in efficiency

Major Learning Outcomes :

Details of Papers/patents : Nothing

Brief Description of working environment, expectations from the company : Great working environment, supportive members. Expectations was that company should give a chance to work on exciting and new project. Chance to network with others.

Academic courses relevant to the project : DSA, OOPS

Name: ANUPAM SINGH(2020A7PS0203H)

Student Write-up

PS-II Project Title: Forecasted Vs Manifested Volume Comparison Visibility File Creation for First Mile Routing – Amazon Shipping (Also called, Automation of Ad-hoc Route Identification)

Short Summary of work done during PS-II : My work was to create these 2 files by collaborating with an other team to get the right data. The project included multiple changes in its product requirement from time to time. I eventually finished the project and both the files, one at Shipper warehouse level and other at Route level, are created every 15 mins everyday. Currently the team is advancing more, into further showing the data from these files to a real time LIVE Dashboard, to further improve visibility between forecasted and manifested packages for operations team.

Tool used (Development tools - H/w, S/w) : Java, Python, Git, JUnit Mockito, AWS, REST APIs

Objectives of the project : The objective or long-term vision was to develop a specialized dashboard system. • This dashboard will serve as a powerful tool for our operations team, providing them with vital insights into the world of package management. • Specifically, it will display two important things: predictions about how many packages we'll probably get, also called forecasted count and what is manifested during purchase. • We aimed to simplify and streamline

our operations by creating 2 separate types of files: one for shipper warehouse level volume comparison, and one for Route level, consisting multiple shippers in it.

Major Learning Outcomes : I have learnt a lot throughout my PS2. My experience has been an incredibly enriching journey, both professionally and personally. The exposure to cutting-edge technologies such as AWS, Spring Boot, and JUnit has not only broadened my technical skill set

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : The work environment is fast-paced and innovative, emphasizing a customer-centric approach and collaboration. Expectations include active contribution to projects, ownership mentality, and a results-oriented mindset. They heavily encourage creative thinking, effective communication, and Amazon's leadership principles.

Academic courses relevant to the project : OOPS, DSA

Name: ALWIN HELOR(2020A7PS0957G)

Student Write-up

PS-II Project Title: Refactor render data, resolving merge from live issue, removing transaction fallbacks to old architecture, migrating configurations from SDC to appConfig

Short Summary of work done during PS-II : The projects involved deep dive into the backend architecture used for invoice generation by amazon. Learned about creating unit testing, generating invoices, usage of Amazon's proprietary software and amazon web services(AWS). Also the project helped in migrating the systems of tax invoicing to the latest technologies and norms. Invoice generation is a very important component of Amazon's business and it is a compliance need in a lot of countries. Hence the completion of these projects has enabled Amazon to continue onboarding new countries and expand business to use cases.

Tool used (Development tools - H/w, S/w) : Agile, programming language used - java, xml, lombok annotation for java, IDE - intellij SSH , shell scripting, DynamoDB, AWS AppConfig, SDC, Coral/ Beejak console, CR, Gitfarm, brazil CLI

Objectives of the project : i) Deep dive into the root cause of this limitation. ii) Refactor some fields to support additional fields for new use cases. iii) Find a sustainable solution for the pain point.

Major Learning Outcomes : i) Usage of amazon's internal tools used for writing, reviewing and testing code changes.

ii) The invoicing architecture of Amazon.

iii) Improved email etiquette, documentation, and report writing.

iv) Enhanced skills in team meetings, client interactions

Details of Papers/patents : None

Brief Description of working environment, expectations from the company :

As an intern at Amazon, I experience a vibrant and fast-paced work environment that prioritizes innovation and collaboration. The company's expectations centre around a customer-centric mindset, encouraging us to think big and take ownership of our projects. I've been exposed to cutting-edge technologies and work alongside talented professionals who value diversity and inclusion. Amazon fosters a culture of learning and development, providing resources for skill enhancement and career growth. The dynamic nature of the business ensures that each day presents new challenges and opportunities to contribute meaningfully to the company's global impact. Overall, my internship at Amazon is a rewarding experience that emphasises adaptability, ownership, and a commitment to excellence.

Academic courses relevant to the project : Object oriented programming in java, database management systems

Name: UTSAV GOEL .(2020A7PS0984P)

Student Write-up

PS-II Project Title: Cradle Audits Enhancements

Short Summary of work done during PS-II : Developed backened of a service using airflow and also created lambda handlers for calling APIs.

Tool used (Development tools - H/w, S/w) : Airflow, java , python

Objectives of the project : Develop backened for a service using Airflow.

Major Learning Outcomes : Airflow, CDK , Python , Java, Mockito

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : It was good but a little hectic.

Academic courses relevant to the project : Oops, dbms , dsa

Name: LINGUTLA SAI CHARAN(2020A7PS1296H)

Student Write-up

PS-II Project Title: RFS/ARE expansion and Mons Mobile Re-Architecture

Short Summary of work done during PS-II : RFS will enhance customer satisfaction by refunding the return amount at the time of package pick up. This will reduce the time taken for refund to the least possible amount. ARE is auto refund enforcement, when a retun package is not eligible for RFS it is sent to the seller to check the quality of returned item and process the refund. With ARE in place a timer will start right after the return package is delivered to the seller and when the timer runs out, refund will be given to the customer automatically. This ensures

better customer satisfaction as the sellers are forced to take action on a returned item within 7 days of return package delivery. These two features help improve the customer experience greatly. MFN sellers were facing the issue that they were not able to change the country in return address form, japanese sellers were unable to add return addresses in japanese. So I have created the backend for the form and a previous intern created the frontend. So, after integration with backend and launching the form will enhance the seller experience as they won't face any issues while adding a new return address.

Tool used (Development tools - H/w, S/w) : IntelliJ idea and other amazons internal tools

Objectives of the project : lauch RFS&ARE in EU marketplaces and complete development of backend for return address form

Major Learning Outcomes : git, java, unit testing, pipelines

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : the expectations set by the manager were clear about finishing the work in given timelines. the environment in my team was very good, every one was very helpful and you ask for help from anyone.

Academic courses relevant to the project : CSF213(OOP)

Name: OJAS KANTH(2020A7PS1391G)

Student Write-up

PS-II Project Title: Native AWS Migration of ContractManagementService

Short Summary of work done during PS-II : The internship workflow involved gaining knowledge about various AWS services and evaluating the pros and cons of different compute

platforms for ContractManagementService. A doc review meeting was conducted, and the architecture design was presented and discussed with the team, leading to the decision to migrate the service to AWS Fargate. AWS Fargate was tested successfully, including completing the CDK testing component. Infrastructure stacks like ecs cluster stack, ecs service stack, and vpc stack were implemented to establish the new service's infrastructure. The Wiki documentation for ContractManagementService was completed, including writing the API Guide with API request-response implementation. Additionally, seven new AWS accounts were created for the service, and packages were created, along with transferring DynamoDB data from the old AWS account to the new one. Auto scaling policies were set up by estimating service load and implementing target tracking. The new application in AAA was set up to manage service relationships and request relations with servers like CloudAuth servers. CloudAuth config was initialized in AWS accounts, and deployment was completed in the pipeline. To onboard to Allegiance for secure client calls from MAWS to the new NAWS architecture, new VPC endpoints were created for the service, and Allegiance roles and IAM policies were added using CDK. Lastly, end-to-end TLS was onboarded with CDORelay and OdinEverywhere. Overall, the workflow involved researching, decision-making, testing, documentation, infrastructure implementation, data transfer, auto scaling setup, application configuration, onboarding to Allegiance, and ensuring secure communication.

Tool used (Development tools - H/w, S/w) : Quip, to document the work procedure, Amazon Chime, to attend standup meetings, and lead doc review meetings, Slack, to discuss day to day updates with team members, Asana Board, to keep track of all tasks and complete them before the deadline.

Objectives of the project : Migrating to NAWS (presumably AWS) will empower to enhance infrastructure management by leveraging a more robust framework. This transition will facilitate accelerated development cycles, cost reduction, improved hardware utilization optimization, and the ability to build applications with highly available, highly scalable, and secure services. By migrating to NAWS, one can take advantage of advanced features and tools provided by AWS, such as auto-scaling and load balancing, to ensure our applications can seamlessly handle fluctuations in traffic and maintain high performance. Additionally, NAWS offers a wide range of security services and compliance certifications, providing a solid foundation for building secure and compliant applications. This migration will also allow to leverage AWS's extensive global

infrastructure, enabling easy deployment to applications closer to the target audience, resulting in reduced latency and improved user experience.

Major Learning Outcomes : During an internship at Amazon, valuable learning outcomes were achieved through a native AWS migration to AWS Fargate. The experience provided a comprehensive understanding of containerization, including container orchestration and management using Docker

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment at the company was exceptional, fostering a great team dynamic and providing numerous opportunities for learning and growth. As an intern, my primary responsibilities revolved around efficiently completing assigned tasks listed in the Asana board within the designated deadlines. A key part of the workflow involved active participation in daily stand-up meetings, where team members shared progress updates and discussed any challenges or blockers they encountered. Additionally, I actively contributed to monthly sprint planning meetings, where the team collectively planned and prioritized tasks for the upcoming period. These meetings provided a platform for sharing insights and aligning goals. Another important aspect of the working environment was the team review meetings, where constructive feedback was exchanged, enabling continuous improvement. This collaborative approach allowed for valuable input from team members to be shared with the presenter. Overall, the company had high expectations for task completion, active communication, and participation in meetings, while also providing a supportive and conducive environment for professional development.

Academic courses relevant to the project : None

Name: PULKIT SINHA .(2020A7PS1678P)

Student Write-up

PS-II Project Title: AddressAuthorityService Projects

Short Summary of work done during PS-II : Upgraded encryption system ; New integration tests ; Upgraded A/B testing system ; multiple bug fixes

Tool used (Development tools - H/w, S/w) : Mostly worked in Java. The company gives all interns a MacBook Pro. Many Amazon internal tools are also used.

Objectives of the project : No single major project, did 8 minor projects

Major Learning Outcomes : How to write industry standard code, highly optimized and well documented.

How to write Unit Tests and Integration Tests.

How to express myself clearly in meetings, especially if the content is highly technical and the audience does not have all the cont

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Very large and beautiful office. All the SDEs were very helpful and friendly. Your mentor gives work based on your speed, they never overwhelm you. The onus is on you to perform well and get the "Inclined" at the end of your internship. (At the end of the internship they tell you whether they're Inclined/Not Inclined to hire you as a full time employee. There is a hiring freeze going on currently so no offers are handed out.) The company has a very well structured internship plan. You get mentor and onboarding buddy. They hold a midpoint evaluation where you have to submit a report and get feedback from your mentor and manager about what you can do better. It is expected that you reach an SDE 1's level by the end of your internship, which is a failr

Academic courses relevant to the project : Object Oriented Programming (OOP)

Data Structures and Algorithms (DSA)

Computer Programming (CP)

Design and Analysis of Algorithms (DAA)

Database Management Systems (DBMS)

Name: ATHARWA PANDEY .(2020A7PS1686P)

Student Write-up

PS-II Project Title: Full CD pipeline implementation for a service.

Short Summary of work done during PS-II : I was able to develop a pipeline which was used by team to deploy any new changes in just 4 to 5 hours. Previously average production time was around 48 hours. Also added load automated load tests, integration tests and monitoring system in the pipeline.

Tool used (Development tools - H/w, S/w) : Amazon internal tools, Java, Typescript, kotlin

Objectives of the project : To make a deployment pipeline automated.

Major Learning Outcomes : How any new code is tested and deployed in a corporation this big.

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : It was pretty great, team was very helpful and mentor was technically sound.

Academic courses relevant to the project : OOP, DSA

Name: ANTRIKSH SHARMA .(2020A7PS1691P)

Student Write-up

PS-II Project Title: Full-Stack Development of Return Settings for Seller Mobile App

Short Summary of work done during PS-II : Starting with setting up IT laptops during orientation, I smoothly went through the SDE Bootcamp, diving into internal tools and processes. Handling the onboarding plan via the Embark Portal, I played a role in removing Weblab in a ramp-up task. Moving to projects, I led the introduction, design, deployment, and MCM creation. In coding, I carefully improved methods, followed SOLID principles, and revamped handlers and the BFF layer. I also worked on refining controllers, increasing unit test coverage, and integrating API DataFetchers, String Translations, and using the internal custom language for the development of the UI for mobile app.

Tool used (Development tools - H/w, S/w) : iOS and Android Simulator; Figma; Java; Spring Framework; Multiple Internal Tools

Objectives of the project : The project aims to streamline and enhance the returns settings functionality within the Seller Mobile App. Through backend unification, we seek to create a cohesive infrastructure, ensuring seamless data flow and efficient processing. On the frontend, our objective is to revamp and refine the user interface, optimizing it for a more intuitive and user-friendly experience. The focus is on development, unification, and user-centric design to elevate the overall efficiency and satisfaction of sellers managing returns through the mobile application.

Major Learning Outcomes : App Development

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working at Amazon was a great experience – there was a laid-back vibe, and everyone was supportive. Micromanagement wasn't a thing, giving you the freedom to manage your workload as long as you met your responsibilities. The emphasis on Amazon's leadership principles was noticeable, playing a crucial role in the evaluation process. The collaborative atmosphere and camaraderie among colleagues contributed to a positive work environment where individual efforts and teamwork were equally valued. The evaluation criteria boiled down to the tangible impact of your work, underlining the significance of productivity and alignment with leadership principles.

Academic courses relevant to the project : Object Oriented programming

Name: MOHIT SHARMA(2020A7PS1707G)

Student Write-up

PS-II Project Title: Addition of GSIs and Automating the process of routing API Failure Data

Short Summary of work done during PS-II : Throughout the project, I actively contributed by writing distinct code snippets, including crucial modifications to API endpoints, a meticulous backfill script for seamless data migration, a Data Access Object (DAO) manager for efficient data retrieval, and mapper functions for data transformation. I successfully submitted several code change requests, all of them were accepted and incorporated, reflecting the value and alignment of the changes with project objectives. I prioritized code quality by developing comprehensive unit tests and validation functions, demonstrating a proactive and thorough approach to software development.

Tool used (Development tools - H/w, S/w) : AWS, Java, ReactJs

Objectives of the project : Enhanced tables by implementing Global Secondary Indexes, developed two backward-compatible bulk APIs, authored comprehensive unit tests, conducted end-to-end testing, and optimized UI for bulk API integration. Automated the process of raising tickets by creating a data pipeline for routing API failure data to a dedicated table which is used by ticket resolution team by leveraging AWS services, including SQS queues, Lambda and DynamoDB

Major Learning Outcomes : Learnt about how to build project from scratch to eventually deploying it, i.e., starting from writing design documentation to implementing it and finally deploying and monitoring the project.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Workload would be more than average, but exposure to all phases in lifecycle of a project would be given.

Academic courses relevant to the project : NA

Name: KOTHA ROHIT REDDY(2020A7PS1890H)

Student Write-up

PS-II Project Title: SPRS Migration from REX to TSV

Short Summary of work done during PS-II : I have created a new API to fetch the imageUrl, I have using the imageId. I have done this using the Java Spring Dependency Injection Framework. As a part of this We make an API call to an external team SPRS to fetch imageUrl. I have synced up with this team to allowlist our service to call this API by creating a ticket. I have also created a new Lambda which will process the image events and store the imageIds corresponding to the trackingId in DB. I have done thorough testing of the new migration flow in beta to ensure smooth integration. The migration is successfully deployed in production.

Tool used (Development tools - H/w, S/w) : JAVA, AWS CDK, Git, Amazon Internal Tools

Objectives of the project : To Migrate the Image Fetching Logic from REX Services to TSV Services by Creating a new API and a new Lambda since TSV is the correct owner of SPRS Logic and this would reduce maintenance overhead from REX Side

Major Learning Outcomes : JAVA Dependency Injection Frameworks, Code Reviews, Deployments, Full CI, CD, Presentation Skills

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The Company follows the agile framework. We have daily standups, weekly OE meetings and monthly sprint planning. The Working environment is very supportive and is a really good learning experience

Academic courses relevant to the project : OOPS, DSA, DAA

Name: U JANVI.(2020A8PS0901P)

Student Write-up

PS-II Project Title: Generating Untrackable Signal For Unhealthy Carrier API

Short Summary of work done during PS-II : Worked with the Shipment and Tracking team to create a data warehousing solution along with end-to-end testing and deployment, for the Concessions service, allowing us to run analytical queries to determine the expected concession savings of a project. Designed and developed a new feature that enabled Amazon to catch unhealthy Carrier APIs and mark packages as untrackable at a much earlier stage, improving the timeliness of untrackable events from 14 days to 5 days, improving the tracking success rate from 91% to 94%.

Tool used (Development tools - H/w, S/w) : S/w - Java, Mockito, AWS, JavaScript

Objectives of the project : to introduce a new evaluator for untrackable shipments, building a pipeline for a service's data-warehouse

Major Learning Outcomes : Clean code, Writing Unit tests

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Very flexible in terms of timings, lot of work, lot to learn as well

Academic courses relevant to the project : Object Oriented Programming

Name: AKSHAT AWASTHI.(2020A8PS1790P)

Student Write-up

PS-II Project Title: Gyrados

Short Summary of work done during PS-II : Set up the pipeline for Gyrados Configuration Service to assist code flow in all regions of UK and US. Wrote GetMetaData API which provides us the metaData corresponding to the artefact user is authorised to access. The get confirmation Api allows us to get metaData corresponding to the fields provided by the user. The onboarding artefact API allows us to onboard a new artefact in the Gyrados database, it takes the metaData of the artefact as an Input and add artefact to the resources bindle as well as create the artefact table in the Gyrados database with columns of the provided attributes on their corresponding attributes type, the meta data is stored in the Dynamo DB table.

Tool used (Development tools - H/w, S/w) : AWS Lambda , AWS RDS, AWS Dynamo DB, AWS APIGateway , AWS CloudFormation

Objectives of the project : Setting up Gyrados Configuration Service Lambda

Major Learning Outcomes : Built the central configuration service of the Gyrados platform for auditing purpose.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work environment is fun. Gained a lot of experience working with my team and all of the team members are always willing to help you out.

The company have huge expectations from you , they have high hopes and the projects you are given makes a big impact in the overall scheme of things.

Academic courses relevant to the project : OOPS and DSA

Name: APOORV RASTOGI .(2020A8PS1810P)

Student Write-up

PS-II Project Title: API based Suppression Record Manager

Short Summary of work done during PS-II : I had to build a service namely, Suppression Record Manager Service that enables the developers to create, read update and delete the suppression rules present in a DynamoDB table which are used by another service named DeviationAlertsPublisher to send delay alarms for delayed packages. Our team planned to create an API-based service using APIGateway. However, we needed to onboard to CloudAuth to have a client. After researching, I found out that we would need a supporting VPC with CloudAuth. I then performed a POC on integrating CloudAuth with APIGateway. I created a low-level design of the service and an API interface model for the API request for passing suppression rules. I also created a class diagram and sequence diagram by applying Java OOP concepts of abstraction and inheritance. To define the operations in the Smithy model for the API request, I created the DeviationRuleManagerModel package. To create the Coral API, I integrated CoralLambdaEndpoint and APIGateway in DelayAlarmSuppressionHandlerLambda. I created operations to create an API using the Smithy model in DeviationRuleManagerModel. I implemented the logic for Create, Read and Update API to create, read and update the suppression rules present in the DynamoDB table.

Tool used (Development tools - H/w, S/w) : Java, TypeScript, Mockito, AWS- Lambda, DynamoDB, APIGateway, CloudWatch

Objectives of the project : The objective of the project is to build an API based service, namely Suppression Record Manager, that can be used to create, read, update and delete the suppression rules present in a dynamoDB table. This service will reduce the number of sev3 tickets to the team due to errors that occurred by managing the rules manually through AWS console.

Major Learning Outcomes : I improved my knowledge and skills of coding in Java. I learnt about various AWS services – Lambda, APIGateway, S3, DynamoDB and CloudWatch. I dived deep

and learnt about dependency injection and how to write Unit tests using Mockito. Also, to make model

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment at Amazon was good. The team members were really supportive and helpful.

Academic courses relevant to the project : Object-Oriented Programming(OOP)

Name: ANIKET VERMA(2020A8PS1909H)

Student Write-up

PS-II Project Title: Delay alarm for Same and Sub Same day delivery packages

Short Summary of work done during PS-II : 1. Created a dashboard for calculating the number of delayed SSD packages. 2. Created a dashboard for formalising the requirement for a better rule based system, by showcasing the drawback in current rules. Wrote the code for creating the rule based same and sub same day service by tracking the risk of the package. Conducted PoC on the new rule based system.

Tool used (Development tools - H/w, S/w) : Java, Typescript, SQL, PlantUML, AWS tools like SQS, SNS and S3, CDK tools

Objectives of the project : Conduct a PoC for a rule based alarm system for predicting the delay in Same and Sub Same day delivery packages.

Major Learning Outcomes : 1. Hands on experience in live projects with the requirement of carefully written robust and scalable code in tight deadlines.

2. Experience in working in an agile framework and Continuous Deployment of code.

3. Applying CS fundamental concepts like OOPs

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work environment is competitive but engaging. The company expects you to over deliver and to take calculated risks. Here speed is prioritised over perfection. Customer satisfaction is in the DNA of the organization. You are expected to take complete ownership of your work. People at Amazon are amazing and there is a lot to learn here.

Academic courses relevant to the project : OOPS was the heart of my project, OS and DBMS concepts were a requirement too. Problem solving skills and some devops experience will also aid in your project.

Name: ARNAV MISHRA(2020AAPS1237G)

Student Write-up

PS-II Project Title: BIG DATA ANALYTICS ON FINANCIAL REPORTING AND DATA PREPROCESSING SYSTEM

Short Summary of work done during PS-II : 1. Establishing a Unified Financial Reporting System: The primary objective is to establish a comprehensive financial reporting system designed to cater to construction projects within the scope of Amazon. This system will ensure accessibility to all the clients, including Amazon and collaborating third-party developers. 2. Error Reduction in Data Entry: The project seeks to implement an error-detection and correction mechanism to effectively handle data entry errors originating from both Amazon and the client's side. This will enhance data accuracy and reliability. 3. Enhancing Reporting Quality: The project aims to deliver high-quality financial reports to clients that are not only mathematically accurate but also presented in a visually appealing manner. This ensures that financial information is readily comprehensible to stakeholders. 4. Automation and Time Efficiency: A key goal is to streamline data handling processes and reduce the reliance on manual interventions. By doing so, the project will significantly decrease the time required for manual work in data processing

and reporting. 5. Scalability: The project will design a scalable system capable of accommodating the evolving demands of clients. This scalability feature will ensure that the system can readily adapt to increasing requirements, as Amazon's scope of construction projects expands. 6. Onboarding of new Modules for Data Preprocessing : The project seeks to onboard new modules onto Data Platform after discussion with peer teams, ultimately helping to build new and diverse financial reports from the granular data of the modules. 7. New Features for AWS QuickSight: One major objective is the development of new features in AWS QuickSight such as Search Box for tables and the implementation of Nested Filters, which are not natively provided by AWS Quicksight. 8. Increasing the efficiency of the backfilling process on Data Platform : With the help of various AWS services, the project aims to increase the efficiency of the pre-existing backfilling process by introducing various reforms in its design.

Tool used (Development tools - H/w, S/w) : IntelliJ, Amazon Web Services, Exclusive libraries maintained by Amazon

Objectives of the project : The problem statement consists of creating a financial reporting system catering to the needs of Amazon and third-party Developers while working on a construction project for Amazon. The aim is to create a system where Amazon, Developers and the people related to the construction of the project can manage their finances, view cost projections and can estimate how their expenditure is going to proceed in the future. The system will also provide facilities to keep the past financial records that occurred in the construction of a particular project at the granular level.

Major Learning Outcomes : Scala and Spark, Java, Python, MySQL

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was very good with very supportive and helpful people. The projects that were given helped a lot in learning new tech stacks and how work is done in an industry.

Academic courses relevant to the project : Database Management Systems (DBMS), Object Oriented Programming (OOPS)

Name: KUSHANT SUDHIR AGRAWAL(2020AAPS1740G)

Student Write-up

PS-II Project Title: Async Flow Between Services to Enable Scaling

Short Summary of work done during PS-II : Actively involved in developing software for two interdependent teams within Seller Compliance at Amazon. My work focuses on enabling the scaling of services to accommodate larger sellers with higher transaction volumes while improving efficiency using asynchronous form of communication between services. I gained hands-on experience with AWS services including SNS, SQS, DynamoDB, SWF and S3 primarily. I utilised AWS CDK with TypeScript to architect and deploy infrastructure as code, ensuring scalability and reliability.

Tool used (Development tools - H/w, S/w) : AWS SNS, S3, DynamoDB, SWF, Java, Git

Objectives of the project : Enable Scaling of inter dependent services, bottlenecked because of synchronous workflows, by moving to asynchronous flow

Major Learning Outcomes : Cloud Computing, Backend, AWS Services, Communication Skills, Documentation, Design Solutions

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : A great working environment where interns get to contribute significantly. The team was supportive and helped me overcome hurdles. Regular connects are scheduled with mentor and manager who address any concerns if at all and push for all round development.

The expectations from a SDE intern are development, maintenance and testing of code.

Academic courses relevant to the project : Foundations of Data Structures and Algorithms, Object Oriented Programming

PS-II Station : Amazon Development Center , New delhi

Faculty

Name: Sugata Ghosal

Student

Name: VINEET VATSAL(2019B1A71085G)

Student Write-up

PS-II Project Title: Enabling Offline Pickup for Odin Lockers

Short Summary of work done during PS-II : I worked on a project which aimed to Enable Offline Pickup for Amazon Lockers. This required creating a new service which would hear notifications from an upstream service and sent caching requests to user's amazon app to cache all packages ordered by the user. This caching mechanism was implemented in the Amazon app as a new Java package. Once cached this data could be used offline to retrieve packages from Amazon Lockers with no internet connectivity.

Tool used (Development tools - H/w, S/w) : IntelliJ Idea, VSCode, Amazon Locker Hardware

Objectives of the project : Enabling Offline Pickup for Odin Lockers

Major Learning Outcomes : Learnt about AWS tools, Native Android Programming, React Native

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was great. The team was very helpful and quite fun to work with. Work life balance

was also great as even with 3 days RTO interns weren't required to follow that policy and my manager allowed me to do 2 days RTO as he was quite pleased with my work.

Academic courses relevant to the project : OOP, DSA.

Name: HITESH KUMAR(2019B2A31548H)

Student Write-up

PS-II Project Title: Project Megabot

Short Summary of work done during PS-II : During my Professional Skills II (PS-II) internship, I undertook a multifaceted role focused on enhancing software infrastructure at Amazon's Delhi office. My primary responsibilities included implementing pagination features, migrating APIs, and addressing software risks. This involved a comprehensive study of existing systems, analyzing codebases, and conducting research to identify potential risks. Notably, a key accomplishment was the migration of a critical use case from Elasticache to DynamoDB, optimizing system performance and achieving a substantial 60% cost reduction. In the realm of pagination, I successfully implemented features that significantly improved data accessibility and the overall user experience. Leading the effort in API migration allowed me to showcase planning and execution skills in complex technical transitions, while also refining documentation and fostering effective collaboration among team members. A crucial aspect of my internship involved software risk mitigation, where I leveraged tools like the SAS Risk Portal and collaborated with mentors and peers to effectively address and reduce potential risks, contributing to the establishment of a more robust software ecosystem. This experience not only solidified my technical proficiency in cloud-based database management and cost optimization strategies but also cultivated skills in project management, collaboration, and risk analysis, making it a comprehensive and rewarding professional development opportunity.

Tool used (Development tools - H/w, S/w) : IntelliJ, VS Code, AWS, Git

Objectives of the project : Migration of critical use case from Elasticache to dynamodb

Major Learning Outcomes : The internship yielded valuable learning outcomes, encompassing technical proficiency, data management, design, project management, and risk mitigation. Hands-on experience in implementing pagination and leading API migration demonstrated technical prowess

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The working environment during my internship at Amazon's Delhi office was dynamic, collaborative, and innovation-driven. The company fostered a culture of continuous learning and encouraged employees to explore new technologies and methodologies. The office space itself was designed to facilitate collaboration, with open workspaces, meeting rooms equipped with the latest technology, and an overall atmosphere that promoted creativity and idea-sharing.

Expectations from the company were high, reflecting its commitment to excellence. There was a strong emphasis on delivering high-quality work, meeting deadlines, and embracing a proactive approach to problem-solving. Amazon encouraged interns to take ownership of their projects, providing a platform to contribute ideas and actively participate in decision-making processes. The company's leadership emphasized the importance of innovation, and interns were encouraged to think critically and propose solutions that could drive positive changes.

Furthermore, there was a strong focus on mentorship and guidance. Amazon valued the professional growth of its employees and interns, providing opportunities for skill development and exposure to real-world challenges. The expectation was that interns would actively engage in their projects, collaborate effectively with team members, and contribute to the overall success of the company's objectives.

Academic courses relevant to the project : DSA, OOP

Name: HARSHIT SINGH ASPAL(2019B3A30398P)

Student Write-up

PS-II Project Title: Traffic Controller And Management System

Short Summary of work done during PS-II : The work in this PS station is software development oriented. Initially I got a chance to work on optimizing throttling for the service which I work on. After this project I was assigned to develop API to automate process of scaling factor calculation. In the backend Spring Boot was used. After this project, I was assigned to work on frontend of a internal portal for which ReactJS was used.

Tool used (Development tools - H/w, S/w) : Mostly IntelliJ IDE was used for development

Objectives of the project : I worked on multiple projects with objectives including optimizing throttling for a service, working of APIs and creating frontend of a internal portal

Major Learning Outcomes : During my internship journey I worked on a variety of technologies such as ReactJS, AWS Lambda, Spring Boot and DynamoDB. Apart from technological skills, daily meetings and presentation helped to my improve my communication skills.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Working at Amazon provided immense learning opportunity. Sometimes the deadlines of the project can be tight but it can be managed. The team environment is very positive and you feel very inclusive in the team. The company expects you to possess strong ability to adapt and pick up new technologies quickly as you get a chance to work on variety of technologies during your internship.

Academic courses relevant to the project : Object Oriented Programming, Database Management System

Name: MANAN AGRAWAL .(2019B3A30465P)

Student Write-up

PS-II Project Title: Anomaly Detection on TEPS Metrics

Short Summary of work done during PS-II : Integrated service with AWS CloudWatch, enabling Anomaly Detection alarms to identify and flag unusual activities promptly. Developed a custom exception error handler for AWS Lambda, making it send messages to specific AWS SQS DLQs based on exception types

Tool used (Development tools - H/w, S/w) : AWS, Spring

Objectives of the project : To enable anomaly detection to detect abnormal activities on a service

Major Learning Outcomes : AWS, Java, Mockito

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Amazon provides a dynamic and fast-paced working environment that emphasizes innovation, customer-centricity, and continuous improvement. As a global e-commerce and technology giant, Amazon operates in diverse business sectors, including retail, cloud computing, artificial intelligence, and logistics.

Expectations from employees at Amazon revolve around customer obsession, ownership, long-term thinking, and innovation. Customer obsession is a core principle, focusing on delivering unparalleled service and value to customers. Employees are encouraged to take ownership of their projects and demonstrate a high level of accountability. Long-term thinking is emphasized, with a commitment to building sustainable solutions that have a lasting impact.

In this dynamic setting, adaptability and a willingness to embrace change are crucial. Amazon values innovation and encourages employees to think creatively, challenge the status quo, and continuously improve processes. The company emphasizes a data-driven approach, leveraging technology to make informed decisions.

In addition to fostering a culture of diversity and inclusion, Amazon places importance on leadership principles such as earning trust, diving deep into problems, and delivering results with a sense of urgency. Overall, Amazon expects its employees to be pioneers in their respective

roles, driving excellence and contributing to the company's overarching mission of being Earth's most customer-centric company.

Academic courses relevant to the project : OOPs

Name: ANUBHAV DHAL(2019B4A30757G)

Student Write-up

PS-II Project Title: Core Transportation Technology

Short Summary of work done during PS-II : Throughout my PS-II internship at Amazon, I actively contributed to the Microservice Re-Architecture project, focusing on transportation technology. My primary project involved Integration Testing, where I successfully onboarded Testing Platform, addressed technical challenges with cloud authentication, and implemented End-to-End tests for the tier-1 API. This deliverable significantly expedited the progress towards achieving a Full CD Pipeline for the service. In addition to integration testing, I played a crucial role in establishing CloudWatch Alarms for the service using AWS CDK, ensuring a robust monitoring system handling 7M+ calls/day. I also completed high-priority Peak Action Items, making the service production-ready before the Q4 peak, and improved unit testing coverage from 60% to 95%. My miscellaneous tasks included cleanup activities for WebLab and dependencies, as well as enhancing the pipeline for improved efficiency and reliability.

Tool used (Development tools - H/w, S/w) : AWS, Java, Typescript, Junit5, TestNG

Objectives of the project : Re-architecture (Monolith to Microservice)

Major Learning Outcomes : During my PS-II internship at Amazon, I achieved significant learning outcomes across technical and soft skills. On the technical front, I gained proficiency in Java and TypeScript from scratch, contributing to the development of clean and efficient code.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment at Amazon was dynamic, challenging, and collaborative. I was exposed to cutting-edge technologies and had the opportunity to work on impactful projects, contributing to the company's goals. Expectations were high, promoting a culture of ownership, innovation, and continuous improvement. The company expected interns to dive deep into technical challenges, take ownership of tasks, and deliver results with a strong bias for action. Collaboration and communication were highly encouraged, with regular interactions with team members, mentors, and stakeholders. The emphasis on feedback and learning allowed for continuous professional development.

Academic courses relevant to the project : OOPs, Computer Networks

Name: SARANSH PRUTHI(2019B4A70718G)

Student Write-up

PS-II Project Title: Supply Replenishment for Customer Returns

Short Summary of work done during PS-II : Developed frontend for a new feature to be introduced in the Amazon Hub app that allows store associates to order return supplies directly instead of the existing cumbersome process of cutting tickets to developers. Resolved ~25 critical and high priority Policy Engine risks for the team.

Tool used (Development tools - H/w, S/w) : React ; Redux ; TypeScript ; JAVA ; Python ; AWS Lambdas ; AWS DDB ; other AWS resources

Objectives of the project : Automate the process of supply replenishment at Amazon Hub stores used to process return orders. This involved developing a new feature and introducing it in the Amazon Hub app along with scripts to automate tickets cut to us in this regard. Also handled Policy Engine risks for the team resolving risks assigned to me and maintaining a weekly report

highlighting risks resolved in the week along with incoming risks. Also worked on developing automation scripts to automate ticket resolution for inventory replenishment at hub stores.

Major Learning Outcomes : 1) Learnt about Redux and React
2) Learnt and used many AWS resources like Lambdas, EC2, S3 buckets, etc
3) Learnt about time management

Details of Papers/patents : No patents

Brief Description of working environment, expectations from the company : Work environment is pretty good but hectic at the same time. You do get to learn about software development in depth while working on numerous small to medium sized projects throughout the tenure of the internship.

Academic courses relevant to the project : Data Structures & Algorithms, Object Oriented Programming, Computer Networks

Name: SOUTIK MOHINTA(2019B5A71392H)

Student Write-up

PS-II Project Title: Building a Serverless Infrastructure for Processing Events and Creation of APIs

Short Summary of work done during PS-II : The project's core objectives were centered on developing a robust backend component to facilitate a customer-facing feature release. Leveraging advanced cloud technologies, particularly AWS CDK, the focus was on seamlessly processing and integrating data with the user interface. An integral aspect was the automation of email notifications to customers, providing timely product status updates. A secondary objective aimed at achieving significant cost savings through the implementation of an innovative serverless architecture. This paradigm shift, from traditional hosting to a more efficient serverless model, demonstrated the project's commitment to strategic cost-effectiveness. The introduction of a Data

Pipeline played a vital role, automating customer data processing and report generation, thereby reducing the workload for business development teams. Additionally, the project sought to mitigate risks associated with legacy code by addressing system issues. This comprehensive overhaul included framework upgrades and an enhanced metric generation system to improve overall system performance and reliability. In summary, the project aimed to deliver a feature-rich, cost-effective, and reliable system, enhancing the end-user experience and aligning with the evolving needs of the business.

Tool used (Development tools - H/w, S/w) : Amazon Web Services like Lambda, SNS, SQS, SMS, DynamoDB, CDK, APIGW, Redshift, IAM and Kinesis, CI/CD Pipelines, Java, Javascript, Springboot, Dagger and Git.

Objectives of the project : Development of backend components for a new feature release

Major Learning Outcomes : Software Development, Amazon Web Service, IaC, System Design and CI/CD Development.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : At Amazon, an intern's scope of work encompasses various responsibilities typical of a Software Development Engineer. The projects involve all facets of a standard software development lifecycle, from design to maintenance, as the tasks assigned to interns are as per the team's requirements instead of being given a dummy project.

Academic courses relevant to the project : Design and Analysis of Algorithms, Database Management Systems, Object-Oriented Programming, and Operating Systems

Name: ANMOL GOYAL(2020A3PS2139H)

Student Write-up

PS-II Project Title: Tech Enhancements at Delivery Station in UTR

Short Summary of work done during PS-II : During the internship, I majorly worked on two aspects. First were regular enhancements in the existing architecture of Delivery Technologies (UTR tech). This included implementing deployment techniques like Blue-Green deployments to the CI/CD pipelines. I also worked on couple of tasks related to improving the workflow of test packages that are used to ensure that the MHE machines are working as per desired requirements. These test packages changes were conducted in two pipelines and involved use of Javascript, typescript on the coding front. Other than that it involved using AWS services like creating alarms with cloudwatch, testing with docker, deployments using CodeDeploy and Cloudformation and using Lambda containers. Second major work was to create a proof-of-concept for a new hardware device based on RFID for a proposal to use it in the delivery stations which can help to cut human hours and reduce PPH. This involved researching on the RFID aspect deep dive on techniques to integrate it with existing architecture of Dolphin devices. It involved use of Android studio, knowledge of IoT and Java.

Tool used (Development tools - H/w, S/w) : Javascript, Typescript, React, HTML, Java, Android Studio, Docker, AWS Services (Cloudwatch, CodeDeploy, Cloudformation, AWS IoT, S3, Lambda, AWS AppConfig)

Objectives of the project : Performing enhancement operations in code bases to support new programs in Delivery Technologies

Major Learning Outcomes : Backend Development (Javascript, Typescript, Java), Frontend development (React), Android Development, Document Writing, Research in RFID field and IoT devices, Deep understanding of Delivery technologies used across world.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The entire team and manager were supportive from the start. It takes some time to get used to the company environment but it becomes smooth afterwards. Timings and workplace are flexible and the internship only demands the work to be delivered on time rather than following the 9-5 ritual. Entire team is highly dedicated and motivated towards work and sets benchmarks for us, inspiring

to do the same. The learning curve is steep but the experience and learnings are enriching and for lifetime.

Academic courses relevant to the project : Object Oriented Programming, Data Structures and Algorithms

Name: RAMESH MAANAV(2020A7PS1007G)

Student Write-up

PS-II Project Title: Load Testing Via Ark, Package Visibility UI

Short Summary of work done during PS-II : Currently we don't have any automated solution for load testing. We face a lot of issues, most of which are already known, while performing load test activity, each of which require manual intervention for its redressal. Currently load testing takes around 1~2 weeks of an SDE bandwidth, same activity has to be performed in regular intervals (Peak Scaling, Prime Day, Workflow launches). On an average, services are required to be load tested twice a year. Automating such load tests will help in reducing the continuous manual efforts. We need to automate the load test activity, which will help in increasing accuracy of test results as well as saving on the SDE bandwidth. • We are creating an UI where the journey and details of a package/s are shown for a user given identifier like containerID, shipmentID etc. NOTE: Not orderID. • We show the journey of every container. For example an shipment could have multiple containers. • When user clicks on any step in the journey of the package. Details of the package would be visible. Like shipmentId, status, amazonBarCode for pre slam/slam states and nodelId, status, direction of the package for post-slam states. • Also the UI would highlight the current state of the package for example if it is in final delivery state it would be highlighted as such. • Currently we are working on the happy case where package is delivered according to original plan. • PreSlam/Slam details of the package are fetched from Ripple ES and PostSlam details are fetched from TEPS API.

Tool used (Development tools - H/w, S/w) : APIs, Unit Tests, AWS, Integration Tests, Java, Javascript, Typescript, Spring, Guice, Dagger, Elasticache Redis, AWS Lambdas, AWS Elastisearch, AWS Cloudwatch, Quip, Slack, Outlook, GitFarm, Terminal,

Objectives of the project : Deep dive and review the proposed design as well as suggest improvements to the design like latency improvements, design simplification etc. • Refactor some classes to support additional fields for new features. • Implement the design using complex concepts such as multithreading, data storage and batch calls.

Major Learning Outcomes : 1.

Monitoring and Logging:

Competence in implementing comprehensive monitoring and logging solutions using AWS CloudWatch and other tools. Skill in monitoring performance, and effectively troubleshooting issues.

2.

Cost Optimization:

Knowledge of c

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Creating a Load Testing Service (Ark Load Generator) that will generate load for a specific code change/service to be tested and run the service/services to be tested for a specific TPS (Transactions per second) and duration. Creating an UI where the journey and details of a package/s are shown for a user given identifier like containerID, shipmentID.

Academic courses relevant to the project : DSA, OOP, OS

Name: YUVRAJ AHUJA(2020A7PS1704G)

Student Write-up

PS-II Project Title: Migration of ADWS Events

Short Summary of work done during PS-II : Backend Development, concepts of Java and OOP were used

Tool used (Development tools - H/w, S/w) : Git, IntelliJ, Java, AWS components

Objectives of the project : Migration of ADWS Events

Major Learning Outcomes : Problem Solving, Industry experience, Skillset improvement, Personality development

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : I found work to be challenging but interesting as well. The company expects you to be a leader and won't have any issues as long as you complete your work on time. Teammates were friendly and helpful.

Academic courses relevant to the project : Object Oriented Programming, Data Structures and Algorithms

PS-II Station : AMD , Hyderabad

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: KIRAT BIR SINGH CHAWLA .(2019B1A80735P)

Student Write-up

PS-II Project Title: Hardware Accelerator Design on FPGA using HLS

Short Summary of work done during PS-II : An accelerator is developed by first writing the algorithm of the operation in high level languages such as C and C++, which is then converted to RTL using Vitis HLS, Then we use Vivado to design the pipeline from inputs to outputs, buffers, decouplers, interconnects, and NoCs. Next, the testing platform is designed on the Vitis IDE using C, which defines the working of the design, how to decode the control signals. The accelerators I worked on were GEMM whose IP I created from an HLS library and FFT where I given the IPs but had to design the entire pipeline of data from input to output.

Tool used (Development tools - H/w, S/w) : Vivado, Vitis HLS, Vitis IDE

Objectives of the project : Create Hardware Accelerators for some of the most used applications such as FFT, SVD, and GEMM

Major Learning Outcomes : Learnt designing workflow in HLS, followed by testing of the Proof of Concept on a C based baremetal platform

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : My team was supportive and provided every opportunity for me to learn. I expected to learn about the work going on in the industry. While I still don't fully grasp each stage of production I still have a good idea about the different career opportunities and the various work that goes on in electronics companies.

Academic courses relevant to the project : Any Course that teaches C and Verilog. Good to have knowledge about how memory and registers work.

Name: YASH KHANDELWAL .(2019B1A81006P)

Student Write-up

PS-II Project Title: Excite Dashboard

Short Summary of work done during PS-II : The data was extracted from 2 perspectives. One was for their internal project progress monitoring dashboard. This was called Excite Dashboard. the data for this was extracted from flow generated reports. The data was extracted using regex and file handling in python. Shell script was used to further push this data into the dashboard database. The second type of data was collected from the LSF dashboard and the LSF logs directly using a C based API. the goal was to analyse the memory usage of different users and try to reduce the memory allocation and memory usage by users. the data was pushed into a dashboard which was created using flask and HTML/CSS/JS.

Tool used (Development tools - H/w, S/w) : Python, IC Compiler2, IBM LSF

Objectives of the project : To create python script and extract data from various sources. Use this to create dashboards for monitoring key metrics.

Major Learning Outcomes : Web Development, Physical Design Theory, C programming,

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Very less work was given. Most of the colleagues were busy with their own work. Therefore not most of the work done was self initiated. A basic Goal and expectations were set. Don't expect a lot of attention from seniors. At the same time you are free to do your own stuff. The Conversion depends upon the availability in the team/department and is not correlated with the amount of work being delegated to you.

Academic courses relevant to the project : CP, ADVD

Name: YASH SATISH THAKKER .(2019B1A81026P)

Student Write-up

PS-II Project Title: Applications of Dynamic Function eXchange (DFX)

Short Summary of work done during PS-II : Developed 3 DFX Designs for Reconfigurable Calculator, Image Processing and AES Encryption/Decryption to benchmark performance against Flat Designs.

Tool used (Development tools - H/w, S/w) : Vivado, Vitis, Verilog, SystemVerilog, C++

Objectives of the project : Demonstrate various applications of DFX using AMD Xilinx FPGAs and benchmark performance and resource utilization with Flat designs

Major Learning Outcomes : RTL Design and Verification using Verilog+SystemVerilog, FPGA Designs Flow (DFX Flow and Flat Flow), Vivado Software

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The Working Environment is great. People are helpful in general. The company doesn't expect much from PS2 interns. Interns are mostly given supplementary projects or pre-solved problems to be optimized. Interns are usually given projects for their self-learning and you won't be allotted live projects.

Academic courses relevant to the project : Digital Design, Computer Architecture, Analog and Digital VLSI Design, FPGAs

Name: SAIJAL BANSAL .(2019B3A80567P)

Student Write-up

PS-II Project Title: Automation of Design Stitching

Short Summary of work done during PS-II : I began by conducting a sanity check on Verilog files located in a folder, isolating the valid ones. Next, I utilized the pyverilog module to parse these files, collecting crucial information and storing it in a list. To ensure consistency, I performed bit reduction on all inputs and outputs, along with IO reduction using mux/demux. Subsequently, I stitched the files in the top module, generating several new Verilog files in the process. I implemented the Independent Stitching method, leaving room for continuous and crossbar stitching methods.

Tool used (Development tools - H/w, S/w) : Linux , Pycharm , Jupyter , VS code

Objectives of the project : To automate the stitching of verilog designs

Major Learning Outcomes : experienced corporate environment , learned how to interact and how to maintain relations in corporate . became a better communicator and gained lot of confidence . Learned how to implement knowledge in the real world and also learned how to break down lo

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Feel free to ask as many questions as you want; there will always be people willing to help, regardless of how basic the questions might be. The emphasis is on continuous growth, even if you are not well-versed initially. The office is expansive and provides a comfortable environment for productive work, equipped with all necessary facilities. The only aspect I was anticipating and didn't experience was a Pre-Placement Offer (PPO), which would have made the overall experience 100% positive.

Academic courses relevant to the project : Digital Design , OOP , OS

Name: KURETI YASAS CHANDRAGANDHI(2019B3AA0294H)

Student Write-up

PS-II Project Title: Early IR Drop Prediction

Short Summary of work done during PS-II : We deal with the Power Side in VLSI. I have been assigned a project to check the IR Drop and Report which parts of the cell are prone to IR Drop and suggest some solutions to counter the IR Drop.

Tool used (Development tools - H/w, S/w) : Python, Vim Editor and Redhawk SC.

Objectives of the project : To predict the IR Drop of the cell using cell activity

Major Learning Outcomes : Learnt Python, Vim Editor and learnt operating Redhawk SC.

Details of Papers/patents : The patent is in process. So, once done. I will add

Brief Description of working environment, expectations from the company : The working environment was good. All of my teammates were very helpful. I am enjoying my time here at AMD and look forward to face the challenges coming ahead.

Academic courses relevant to the project : C language, Computer Architecture

Name: YASH KASLIWAL(2019B4A80106G)

Student Write-up

PS-II Project Title: Software Development for Vivado

Short Summary of work done during PS-II : I worked on various complex cases, improving my debugging and testing efficiency. I learned to manage and complete intricate cases, enhancing my understanding of real-world software engineering. I also prepared and presented my work, honing my presentation and time management skills. Despite encountering unexpected challenges, I effectively adapted my plans to ensure timely completion of tasks. This internship provided me with invaluable practical experience and skills.

Tool used (Development tools - H/w, S/w) : Perforce, JIRA, Vim, Internal Apis, RDi

Objectives of the project : Solver for certain issues faced on client side

Major Learning Outcomes : Real time Development Experience, Debugging, Handling Cases.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment during the internship was highly conducive to learning and growth. The office space was well-designed, fostering creativity and productivity. Colleagues were supportive and friendly, creating a positive and collaborative atmosphere. However, as an intern, it was crucial to take the initiative. Proactivity was key in seeking out learning opportunities and handling tasks. While guidance was available, the onus was on the intern to drive their own development. This balance of a supportive environment and the need for self-motivation provided a comprehensive experience, preparing me for future professional roles.

Academic courses relevant to the project : DSA, OOP, Graphs and Networks

Name: AKHIL RAJEEV(2019B5AA1287H)

Student Write-up

PS-II Project Title: Graphics Power Management Design Verification And Texture Reference Models

Short Summary of work done during PS-II : Created and improved tests to verify the GPU's Graphics Power Management subsystem. Worked on creating TLM Reference Models for Texture Subsystem.

Tool used (Development tools - H/w, S/w) : Synopsys Verdi, Synopsys VCS

Objectives of the project : The aim of this project is to work with my team to write and debug testbenches to verify the Graphics Power Management Subsystem and to create Texture Subsystem TLM Reference Models for upcoming AMD datacenter GPUs.

Major Learning Outcomes : Learnt about Graphics Pipelines, Texture Mapping, Power Management, UVM

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Manager and team were very supportive. Everyone was very helpful and willing to share their knowledge. Even under high pressure and tight deadlines, team was very positive and encouraging.

Academic courses relevant to the project : Computer Architecture , Digital Design, Microprocessors and Interfacing

Name: [SHOBHIT GUPTA\(2019B5AA1497H\)](#)

Student Write-up

PS-II Project Title: Power testing using power artist tools

Short Summary of work done during PS-II : My objective was to run different power tests on GPU using one of the VMT power tool to get the power reading posted for those block so that analysis team can see what all changes need to be made in the architecture of that gpu so to

lower power consumption even more. I also ran different test and update those tests changes on P4 servers so that everyone can load them into their directory as well which can help them in understanding different parameters.

Tool used (Development tools - H/w, S/w) : ETX(LINUX) ,P4V ,VMT FASTPOWER

Objectives of the project : My objective was to run different power tests on GPU using one of the VMT power tool to get the power reading posted for those block so that analysis team can see what all changes need to be made in the architecture of that gpu so to lower power consumption even more

Major Learning Outcomes : Understanding of different GPU block and their integration and how to use power tools to get power reading and what to understand from those readings

Details of Papers/patents : Nill

Brief Description of working environment, expectations from the company : My expectations were partially met ,all of my team were very helpful and friendly .but the only issue I had was that I wanted to make different power test (in verilog code) instead of running them .

Academic courses relevant to the project : FPGA and bit of digital design

Name: PRANAY CHAPLOT .(2020A3PS0337P)

Student Write-up

PS-II Project Title: Vivado: RQA DashBoard

Short Summary of work done during PS-II : A neat GUI that displays a 1-5 score , It automatically updates, shows a visual score, lets users re-run RQA with a click, and provides extra category scores when hovering over a button. It even flags if the RQA results are old when the design changes.

Tool used (Development tools - H/w, S/w) : Vivado, Linux, Gvim, Opengrok

Objectives of the project : Create a GUI for a functionality in Vivado using Java and C++

Major Learning Outcomes : I got better at C++, Java, Protobuf, Linux, and more. Also, I dove into Vivado and Verilog, learning a bunch about those. Plus, I figured out MVC and how to use OOPs in real life.

Working at a big place like AMD taught me teamwork, goal-setting, and how

Details of Papers/patents : A graphical user interface (GUI) was created for Vivado's Report Quality of Results Assessment (RQA) function. This GUI gives users an easy-to-understand view of their design's status. The main challenges involved understanding Vivado's code, building and

Brief Description of working environment, expectations from the company :

The work atmosphere is awesome – super relaxed and laid-back. If you need help, mentors are there for you unless they're tied up with something. We work five days a week, and there's no strict schedule for when you arrive or leave, usually around 9 to 5. Interns get to tackle cool experimental projects that match their skills. Plus, there's plenty of time to get a handle on how things work around here in the company's environment.

Academic courses relevant to the project : C Programming, Digital Design

Name: SAMEER BANSAL(2020A3PS2002G)

Student Write-up

PS-II Project Title: MERu Dashboard

Short Summary of work done during PS-II : Made a data analytical tool to analyse different types of data

Tool used (Development tools - H/w, S/w) : Docker, Vivado, Verilog

Objectives of the project : To make a data analysis tool

Major Learning Outcomes : Learnt many new technologies like AI, ML , Python , Docker etc

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good working environment. Didn't give PPO to any interns

Academic courses relevant to the project : DSA, OOPS, DBMS

Name: SANSKAR KAUSHIK .(2020A8PS1562P)

Student Write-up

PS-II Project Title: Transpose Operation on AIE Array

Short Summary of work done during PS-II : I was asked to map Matrix Transposition Operation on Versal Line of Products. These devices has AI Engines that are arranged in an array. These engines tout a VLIW, SIMD core through which they exploit data-level parallelism and instruction level parallelism. My work was focused on using these AIEs to map Matrix Transposition. I also profiled and evaluated the performance of my mapping using Vitis.

Tool used (Development tools - H/w, S/w) : AMD Vitis

Objectives of the project : Performance Evaluation and mapping of Transpose Operation on AIE array

Major Learning Outcomes : >Performance Evaluation Frameworks
>Computer Architecture

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work culture is great and everyone is helpful. There is a healthy representation of BITS alums in the workforce. I was able to connect with many permanent employees who were BITS alumni and otherwise. You can expect work that is open-ended. If possible try to get specific work. Connect with as many people as possible.

Academic courses relevant to the project : Computer Architecture, Adv. Computer Architecture, Operating Systems, Computer Programming

PS-II Station : AMD India Pvt Ltd , Bengaluru

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: Pranav Taneja(2019B3A70487P)

Student Write-up

PS-II Project Title: Enhancing the AMD-GPU Compiler Back-End

Short Summary of work done during PS-II : I spent the first month in getting trained on various software development tools and started learning about various compiler concepts from AMD's internal knowledge base. Post that I worked on two projects, both of which turned into open-

source commits in the LLVM project and included coding in C++ for improving the back-end of the compiler.

Tool used (Development tools - H/w, S/w) : Visual Studio, C++, Git, Phabricator (Now deprecated)

Objectives of the project : To make contributions to the LLVM codebase in order to enhance compiler output and compilation time for AMD-GPU

Major Learning Outcomes : Agile software engineering flow, got better at C++ and OOP, learning the flow of code review and contribution to a large open-source project, Learnt GPU architecture and Compiler engineering and a lot of compiler concepts not usually taught in undergrad a

Details of Papers/patents : I made two open source commits to the LLVM monorepo, the first one having commit hash - "6d9b96313d204f4bf372332f91f11890a7aedfdd", improved the compile time for AMD-GPU by replacing the LivePhysRegs utility with the light-weight LiveRegUnits utility inst

Brief Description of working environment, expectations from the company : The working environment is absolutely great. The work timings are flexible; I had to go to the office all working days, but the office environment was great, and I enjoyed that. The team was very inclusive and always fostered genuine discussions. The hierarchy is flat, where you can ask a question to the most senior guy in the team casually over a coffee break. The office has a game room with a pool table, foosball, TT, and more. The manager was always supportive. There was good subsidised food in the cafeteria. Overall, a great experience with not a single day wasted.

Academic courses relevant to the project : Computer Programming, Data Structures and Algorithms, Object-Oriented Programming, Compiler Construction, Microprocessor programming, Computer Architecture (Relevant but not necessary; just have good programming skills and you can learn the rest on the jo

PS-II Station : American Express - Decision Science & Strategy , Bengaluru

Faculty

Name: Arindam Roy

Student

Name: JADHAV PRADNYA RAJENDRA(2019B1A31135G)

Student Write-up

PS-II Project Title: DocVerify: Document Tampering Detection

Short Summary of work done during PS-II : I was part of the document AI team and worked on a Docverify project. The project was focused on building a robust solution to detect document tampering. There were three crucial pillars: content, metadata and layout. I developed an NLP algorithm to extract information from financial documents and introduced three advanced metadata features. I tested these features on 55,000 documents to develop a document tampering detection model and automated the model to process incoming documents on a monthly basis. The process started with creating bank-wise datasets containing JSON and CSV files with all the required information, such as account number, customer data, and metadata features. The consolidated datasets helped access the information quickly. I identified false positive cases using a confusion matrix. The procedure involved identifying reasons behind false positive cases and refining the code. This work involved carefully assessing the binary data in the pdf and identifying the discrepancies to reduce the false positives. The enhanced model detected 90% of the tampered documents from May month's data. I also prepared a script to generate a monthly report with all the information on good/tampered documents (30000 documents/month). It is an automated script that executes efficiently and generates the final report by giving input of the CSV file. I also created a weekly report which could be extrapolated to the month to get prior estimates about banks/accounts at higher risk. Pdfminer, Pymupdf, scikit-learn, and PyTorch was utilized while building the text extraction models and the entire code was written in Python.

Tool used (Development tools - H/w, S/w) : VScode, ML studio.

Objectives of the project : 1. Identify tampering in the documents with metadata, content and layout features. 2. Build a predictive model to create alert system to identify customer accounts that are at higher risk

Major Learning Outcomes : Technical: Python, Analyzing unstructured data, NLP, ML, Modeling, LLMs

Organizational: Prioritization of work, Business models, Team events, Goal setting

Soft skills: Collaboration, Building relationships, Communication, Time management

Details of Papers/patents : No papers.

Brief Description of working environment, expectations from the company : The working environment at American Express was great and supportive. The team was encouraging. The collaborations across teams were productive and helpful in building the solution. The work hours were nearly 8 hours/day.

Academic courses relevant to the project : Computer Programming, Calculus, Linear Algebra.

Name: SARTHAK GUPTA(2019B4A70464P)

Student Write-up

PS-II Project Title: Development of Score Change Analysis Tool

Short Summary of work done during PS-II : The project deals with research and development of Amex's in house case review tool to review particular cases assessed for credit risk. Working in ML and Opt team under Credit and Fraud Risk department of American Express, the project involved literature review and understanding deep concepts around explainability and Shap within Machine Learning.

Tool used (Development tools - H/w, S/w) : TreeSHAP

Objectives of the project : To adopt ways to identify most important features contributing towards the prediction of a target sample with respect to a baseline sample responsible for making a non-risky customer, a risky one.

Major Learning Outcomes : 1. Presentation Skills 2. Time management 3. Working under pressure

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work culture is great. It was in hybrid mode (required to be present in the office only twice a week). Your inputs are valued. You are constantly praised and encouraged for your good work.

Academic courses relevant to the project : Machine Learning, Mathematics - II, DSA

Name: AARYAN AGARWAL .(2019B5A30713P)

Student Write-up

PS-II Project Title: Xgboost memory analysis

Short Summary of work done during PS-II : First I worked on memory analysis of a propriety machine learning algorithm based on xgboost. Next we created a memory requirement prediction logic. Next I worked on a data validation utility using pyspark.

Tool used (Development tools - H/w, S/w) : python , pandas , pytorch

Objectives of the project : To analyse the memory usage of the proprietary xgboost algorithm used by american express

Major Learning Outcomes : Machine learning , Data Manipulation and Analysis, Big data

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The working environment in my team was great. Everyone was very supportive and gave space and time to learn new things and implement them in the project.

Academic courses relevant to the project : NNFL , Machine Learning , OOP

PS-II Station : American Express -Decision Science and Strategy , Gurugram

Faculty

Name: Ashish Narang

Student

Name: UJJWAL JAIN .(2019B4A70647P)

Student Write-up

PS-II Project Title: Fraud Detection using Sensor Data and Summarization & Inferencing using LLaMa2

Short Summary of work done during PS-II : Our approach integrates various smartphone sensors to enhance transaction security and detect fraud. The accelerometer and gyroscope are key for recognizing basic activities during card-present transactions and tracking device

movement and orientation. The magnetometer, used as a location proxy, helps identify the unique magnetic fields of different locations, adding a layer of security. The ambient light sensor also fingerprints lighting conditions, distinguishing between regular and suspicious transaction environments. We also use battery temperature as a proxy for ambient temperature, adjusting our fraud detection system to environmental changes. The correlation between battery discharge rate, temperature, and device orientation provides insights into typical phone usage patterns, helping identify unusual activities indicative of fraud. This multifaceted approach aims to create a robust, adaptive system that enhances the security of digital financial transactions. This project explores the application of the LLaMa2 language model, developed by Meta, focusing on summarization and question-answering inferencing. LLaMa2 transforms call transcripts between credit card company customer service agents and customers into concise summaries. These summaries target the "Scam" and "Churn" domains, providing clear overviews of the conversations. LLaMa2's advanced language understanding capabilities allow for extracting key insights from complex dialogues. Beyond summarization, these summaries serve as a basis for question-answering inferencing within these specific domains. This approach streamlines information and enhances the retrieval of relevant insights, crucial for credit card operations. The project demonstrates LLaMa2's potential in converting lengthy call transcripts into actionable insights, optimizing customer service, fraud detection, and decision-making in the credit card industry.

Tool used (Development tools - H/w, S/w) : Company proprietary Development Environment

Objectives of the project : To use smart phone sensor data like accelerometer, gyroscope etc. to help detect card present fraudulent transaction. Using LLaMa2 to summarize long call transcripts and answer domain prevalent question to complement Churn and Scam Detection

Major Learning Outcomes : Learning about different phone sensors and innovative utilisation of the same to detect card fraud.

Leveraging state of the art open source LLM to complement our Churn and Scam Prediction

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : During my internship at American Express, I was genuinely impressed by the work environment and culture,

which I found to be incredibly employee-friendly. The company places a strong emphasis on personal and professional growth, providing numerous opportunities for learning and development. There's a palpable sense of innovation and collaboration in the air, with teams enthusiastically working together on diverse projects. The management is very approachable and actively encourages open communication, ensuring that everyone's ideas and feedback are valued. The company also prioritizes work-life balance, offering flexible working hours and a supportive atmosphere that acknowledges the importance of personal wellbeing. Regular team-building activities and an inclusive environment further enhance the sense of community and belonging. Overall, it's a place where you're not just working on projects, but also growing as a professional and an individual.

Academic courses relevant to the project : Natural Language Processing, Machine Learning

Name: ABHIJITH KANNAN(2019B5A70688P)

Student Write-up

PS-II Project Title: Using LLM to infer from call transcripts

Short Summary of work done during PS-II : Made a pipeline which extract inferences from call transcripts using llms and then cluster them. Also researched on different algorithms and idea to detect hallucinations from large language model hypothesis.

Tool used (Development tools - H/w, S/w) : Pytorch, pandas, numpy, python

Objectives of the project : To create a pipeline which extract inferences from call transcripts using llms and then cluster them.

Major Learning Outcomes : Pytorch, pandas, numpy, theory related to prompt engineering and llm infra

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very relaxed working environment. Lots of free time and well maintained work station. Not much new innovations implemented due to banking and finance company. But overall very good place to be

Academic courses relevant to the project : Natural language processing, machine learning, deep learning, neural networks and fuzzy logic.

PS-II Station : Amica Financial Technologies Pvt. Ltd. , Bengaluru

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: AKSHAT MANISH GARG(2019B4A40695P)

Student Write-up

PS-II Project Title: Scaling up Jupiter Debit cards

Short Summary of work done during PS-II : I worked on a couple of features which are ready to go in market in next couple of months. One of them being a first in the market product, which will enable and make card transactions faster. Apart from this, I also worked a bit on the growth side by running and managing several campaigns and offers. There used to be several BAU stuff like clearing invoices, data sharing, etc.

Tool used (Development tools - H/w, S/w) : Metabase, Amplitude, Clevertap, Excel, SQL, Figma, JIRA, Confluence, Retool, GupShup, DLT portals, Grafana

Objectives of the project : To scale up Debit card (declining) business in the growing market of UPI and Credit cards

Major Learning Outcomes : Product Roadmapping, Product Lifecycle Management, A/B Testing, Data-Driven Decision Making, Market Analysis, User-Centric Designing, Cross-functional Collaboration, User Persona Development, KPI Tracking, Documentation skills, Prototyping

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working environment is a bit fast, since it is a startup. But great learning environment if you really want to learn. There are many senior folks in the company who are very friendly, and have great experience of banking sector. Monthly we have open house with the Founder. Expectations are quite high, they don't treat interns and APMs different, same amount of work is given and similar kind of output is expected after a certain time. Apart from this everyone is quite chill.

Academic courses relevant to the project : Not at all

PS-II Station : Analog Devices India Pvt. Ltd. , Bengaluru

Faculty

Name: Sathisha Shet K

Student

Name: TADINADA VENKATA SAI KARTIK .(2020A3PS0435P)

Student Write-up

PS-II Project Title: Embedded Firmware testing for wireless battery monitoring systems for electric vehicles

Short Summary of work done during PS-II : Create and maintain various python test frameworks that enable testing of embedded firmware which is present among various components in the final product which is a wireless battery monitoring solution for electric vehicles.

Tool used (Development tools - H/w, S/w) : Proprietary hardware and sensors along with open source software such as python and pytest

Objectives of the project : Test and verify that the firmware on the embedded devices of a wireless battery monitoring system adhere to certain industry standards

Major Learning Outcomes : Creating and using python frameworks to test firmware

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment is highly collaborative, fostering easy access to information through diverse channels. The overarching company expectation centers on delivering top-tier work, while team-specific expectations involve assuming ownership of project facets, maintaining transparent communication, and, when tasks span multiple groups, undertaking responsibility to ensure synchronization among all stakeholders.

Academic courses relevant to the project : Computer programming

PS-II Station : ANS Commerce - Non tech , Gurugram

Faculty

Name: Sidharth Mishra

Student

Name: ARYA JAISWAL(2019B2A11114G)

Student Write-up

PS-II Project Title: Improving ROAS and sales at various e-commerce platform by performance marketing

Short Summary of work done during PS-II : I worked on creating sales report, performing market analysis, campaign analysis, funnel analysis and audience analysis using raw data from platforms like Google ads and meta ads and processing them using Excel.

Tool used (Development tools - H/w, S/w) : Excel, Asana, kartify, kartapult,data analysis, performance marketing

Objectives of the project : To improve the sales of various e-commerce

Major Learning Outcomes : Excel, Asana, kartify, kartapult,data analysis, performance marketing

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : It was good. My internship was remote.

Academic courses relevant to the project : None

Name: PRAKHAR MATHUR .(2019B5AB0787P)

Student Write-up

PS-II Project Title: Marketing

Short Summary of work done during PS-II : Attended client meeting, Month to date and target vs achieved reports dealing with Impressions, click through rate, sales, revenue, ACOS, ROAS etc. then Glance view reports. account health reports, lots of dirt work.

Tool used (Development tools - H/w, S/w) : Excel, Helium software

Objectives of the project : Analyzing Business, Inventory and Fulfilment Reports, Account health and client meetings

Major Learning Outcomes : Excel, e-commerce

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Usually cool but some visible office politics affecting only permanent employees not interns.

Academic courses relevant to the project : NA

Name: ANKRIT SETH .(2020A2PS0650P)

Student Write-up

PS-II Project Title: Business Intern

Short Summary of work done during PS-II : Analyze daily business numbers, participate in decision making and manage the clients.

Tool used (Development tools - H/w, S/w) : MS Excel

Objectives of the project : Analyze daily business numbers, participate in decision making and manage the clients.

Major Learning Outcomes : Learned Excel, Communication, SEO and about Fb and Google ads

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good and supportive

Academic courses relevant to the project : Marketing Research, Digital Marketing

Name: ARYAN PRAKASH.(2020A2PS1745P)

Student Write-up

PS-II Project Title: Seo intern

Short Summary of work done during PS-II : Different seo related activities are to be performed for backlink creation with the ultimate motive of brand promotion and improving its visibility on search engines

Tool used (Development tools - H/w, S/w) : Moz, excel, chat gpt

Objectives of the project : Learning about search engine optimisation and related work.(off page activities)

Major Learning Outcomes : Learning about off page activities for brand promotion

Details of Papers/patents : Backlink creation and updating on excel sheets completing monthly targets

Brief Description of working environment, expectations from the company : Good working environment with cooperative mentors. Initially helped in making me understand about the basics and work process and always helped in clearing my doubts.

Academic courses relevant to the project : None

Name: ACHINTYA SHANKAR .(2020A4PS0194P)

Student Write-up

PS-II Project Title: Business Intern

Short Summary of work done during PS-II : Being a part of the marketing team, I was the in-charge for the performance of Meta Ads for 2 brands and was involved in 7 other brands to help out others in management of their brands. We had to run digital marketing campaigns for the brands in question and provide results based on each brands individual goals(revenue/traffic). We had to control the campaigns based on certain metrics and also plan out future campaigns based on upcoming events or trends.

Tool used (Development tools - H/w, S/w) : Meta Business Manager, Google Analytics

Objectives of the project : Handling digital marketing for various brands on multiple platforms.

Major Learning Outcomes : Digital Marketing, Facebook Business Manager

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The environment within my team was very good. Everybody was available in case I needed help with anything. Teams are free to move around and interact with other teams in case the need arises and people are free to take breaks whenever they feel so and are not having a lot of work.

Academic courses relevant to the project : Digital Marketing

Name: ANSHUMAN AGRAWAL .(2020A4PS0594P)

Student Write-up

PS-II Project Title: Growth Management for Ecommerce Brands

Short Summary of work done during PS-II : At ANS Commerce (A Flipkart Group Company), I had the opportunity to work closely with the business team, managing the needs of 40+ e-commerce brands and generating substantial annual revenue. I assisted in weekly discussions with these brands, addressing performance and resolving issues while optimizing the process for maximum conversions and revenue with upsells. My role involved supporting operations and streamlining various processes for better outcomes.

Tool used (Development tools - H/w, S/w) : Microsoft Excel, Google Analytics, Kartify and Kartapult (In house products of ANS Commerce) etc.

Objectives of the project : The main objective of the project was to manage and develop sales for an ecommerce brand by various upsells and cross sells and performance marketing

Major Learning Outcomes : Learned a detailed procedure of how the e-commerce industry works and got a chance to work with more than 40 brands.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The company's work environment was exceptionally supportive and professional. My manager and colleagues were always there to assist me in learning and consistently provided support in various aspects. Their guidance played a crucial role in my overall development.

Academic courses relevant to the project : None

Name: SUBHRANGAM BHARALI(2020A4PS1811G)

Student Write-up

PS-II Project Title: Digital Marketing

Short Summary of work done during PS-II : I worked in the Marketplace management team for different brands to increase their inorganic sales through ecommerce platforms like Amazon and Flipkart. This was achieved by running ad campaigns. Also I built an automation tool to extract data from websites required for technical analysis to run ads

Tool used (Development tools - H/w, S/w) : Amazon ads , FK ads, Asana, Python, Helium10

Objectives of the project : To increase sales of ecommerce products for clients

Major Learning Outcomes : Team work, Presentation , Digital Marketing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : It was work from home. Working environment is very fast paced. You are reqd to learn by your own. They expect you to know things beforehand.

Academic courses relevant to the project : None

Name: SHAH SPARSH HEMANG .(2020B3PS1972P)

Student Write-up

PS-II Project Title: Business Intern

Short Summary of work done during PS-II : As a business intern at ANS Commerce, I actively contributed to the operational efficiency of the organization through various responsibilities. I played a pivotal role in streamlining processes by developing automated trackers, enabling seamless monitoring of key metrics. Analyzing daily performance numbers became a routine task, allowing for data-driven decision-making. My role extended to generating comprehensive reports that provided valuable insights into business trends and areas for improvement. In addition, I excelled in fostering effective communication by coordinating internally within the team and externally with clients. This experience enhanced my analytical and coordination skills, laying a solid foundation for my future endeavors.

Tool used (Development tools - H/w, S/w) : Meta Ads, Google Ads, Google Analytics, Google Sheets, Microsoft Excel

Objectives of the project : Perform day to day tasks as a part of the Business Team

Major Learning Outcomes : Team and Client side coordination, Data automation and analytics

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Team was cooperative and overall the experience was okay.

Academic courses relevant to the project : NA

PS-II Station : ANS Commerce - Tech , Gurugram

Faculty

Name: Sangeetha Viswanathan

Student

Name: YASH AGARWAL .(2020ABPS1834P)

Student Write-up

PS-II Project Title: Redesign of Performance Marketing Automation tool

Short Summary of work done during PS-II : I led the redesign of Kartapult to enhance UI & optimize UX by catering to usability. I developed a design system for the company's product using Figma, leveraging data-driven analytics to maintain a consistent visual style. I also designed all the new features introduced into Kartapult, to bring it upto modern standards, both visually and functionally.

Tool used (Development tools - H/w, S/w) : Figma, Adobe Creative Suite, Webflow, PowerBi

Objectives of the project : As a Product Designer, I am responsible for ensuring that the user experience and visual aspects of ANS's product, Kartapult, align with user requirements and business objectives.

Major Learning Outcomes : - Mastered empathetic design, creating interfaces that prioritize usability and aesthetics.

- Enhanced interpersonal and technical skills in a corporate environment, showcasing adaptability.

- Acquired in-depth knowledge of the product design field, contr

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : During my time at ANS, I worked in a fast-paced environment where highly technical products were the focal point. The company's swift introduction of features demanded an ability to efficiently complete projects within demanding timelines, providing me with valuable experience in navigating high-pressure work scenarios. Support from project managers played a crucial role in guiding teams through the challenges of this dynamic setting, fostering a collaborative approach.

Despite the rapid pace, ANS prioritized work-life balance. I appreciated the flexibility of working from home on most days. This flexibility allowed me to meet the demands of a high-paced work environment while maintaining a healthy equilibrium between my professional and personal life.

Academic courses relevant to the project : Human Computer Interaction, Design Thinking and Innovation

PS-II Station : Apple India Private Limited , Bengaluru

Faculty

Name: T Venkateswara Rao

Student

Name: PRANAV YENISHETTI(2020A4PS2338H)

Student Write-up

PS-II Project Title: Operations Program Management in a Factory

Short Summary of work done during PS-II : Led the production ramp process for the iPhone 15 launch in India. Responsible for the configurational design of the phones involving part selection, quantity , dependencies and more. Worked on projects involving cross functional teams in India, Cina and the US for process optimisation and standardisation. Devoloped excel based tools for production quaty and buffer planning.

Tool used (Development tools - H/w, S/w) : Excel, Tableau, Powerpoints, Proprietary tools of the company

Objectives of the project : Process Improvement

Major Learning Outcomes : Factory Operations and processes

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Need to be present in the factory for a major propotion of the PS.

Academic courses relevant to the project : Manufacturing management, Optimisation, Supply chain management

PS-II Station : Argenbright Innovation Lab , Bengaluru

Faculty

Name: Seetha Parameswaran

Student

Name: JAYANT LAL DAS(2019B2A30992G)

Student Write-up

PS-II Project Title: Security OS

Short Summary of work done during PS-II : In my role, I conceptualized and engineered "Security OS," an advanced security solution leveraging Computer Vision technologies. The

system incorporates Automatic Number Plate Recognition (ANPR) and face recognition models employing YOLOv8, Easrocr, and DeepFace for precise vehicle and individual identification. Complementing these, YOLOv8 pose detection and hazard identification models were implemented, enhancing threat assessment capabilities. To centralize these functionalities, I developed a robust Django backend with a RESTful API, facilitating real-time analysis of RTSP camera streams. The user interface was designed with a React-based front-end dashboard, featuring secure user authentication for personalized monitoring. Firebase was employed for real-time data synchronization, enabling immediate alerts for unknown persons or vehicles. Thorough documentation, including model architectures and system configurations, was undertaken to ensure seamless future maintenance. Collaborating across teams, I optimized system performance, resulting in a cohesive and impactful security solution. This project not only demonstrated my proficiency in Computer Vision and full-stack development but also showcased my ability to integrate diverse models into a unified, user-friendly application, contributing significantly to the realm of security and surveillance.

Tool used (Development tools - H/w, S/w) : Django, React , YOLO OpenCV

Objectives of the project : Creating a Security Platform using different Computer Vision Models

Major Learning Outcomes : Learned real world implementation and application of ML models

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Start-up environment, lenient rules and no hard deadlines and very approachable

Academic courses relevant to the project : NA

Name: [MERCHANT KSHITIJ SANJAY .\(2020A3PS0436P\)](#)

Student Write-up

PS-II Project Title: ML Projects

Short Summary of work done during PS-II : Leveraged OpenCV and OpenPose to develop a posture-based threat detection system, enhancing security measures through real-time analysis of human postures. Implemented a robust facial recognition system using YOLOv7, providing advanced identification for security with 94% accuracy. Designed and deployed an Optical Character Recognition (OCR) engine within the AWS framework. Utilized CloudFormation, Lambda functions and DynamoDB for efficient key-value pairing in automated Insurance document processing, with a time span of 12s. Developed a comprehensive NLP solution for crime and location tagging on web-scraped news articles. Custom-trained a SpaCy model and integrated it with Django backend. Implemented a Leaflet.js frontend to display a choropleth map for visualizing crime rates in the UK with F1 Score of over 89%. Designed and implemented an Automatic Number Plate Recognition (ANPR) system integrating YOLOv8 for advanced object detection and EasyOCR for efficient optical character recognition, showcasing expertise in computer vision and intelligent image analysis.

Tool used (Development tools - H/w, S/w) : H/W: CCTV Cameras, S/W: Django, React, JavaScript

Objectives of the project : Create multiple microproducts with ML implementation

Major Learning Outcomes : Learnt how to build various ML implemented working products (MVP) from start to end.

Details of Papers/patents : NONE

Brief Description of working environment, expectations from the company : In a start-up environment characterized by lenient rules, the absence of hard deadlines, and a highly approachable atmosphere, employees experience a workplace that prioritizes flexibility and creativity. With a casual approach to rules and a lack of stringent deadlines, the emphasis shifts towards delivering high-quality work, reducing stress, and promoting a collaborative culture. The open communication channels and accessible leadership create an environment where individuals feel empowered, fostering innovation and adaptability. This approachability not only

encourages teamwork but also contributes to professional growth, as employees find it easy to seek guidance and take ownership of their work. While the informal atmosphere allows for individual expression and autonomy, maintaining a balance between flexibility and structure remains crucial for achieving organizational goals.

Academic courses relevant to the project : CP, IoT, DSA, OOP

Name: ROHAN ANIL MUSKAWAD .(2020A8PS1798P)

Student Write-up

PS-II Project Title: Security OS

Short Summary of work done during PS-II : The PS station provided us with various projects to choose from. The project we worked on was about making a threat detection platform using custom machine learning models to detect threat and location. This had to be further converted into an end to end product using full stack applications. Here we learnt about various backend and frontend frameworks and worked with Django and React.

Tool used (Development tools - H/w, S/w) : Django, React, Git, GitHub, Linux, Google Colab

Objectives of the project : Creating a one stop platform to its users to know about the various threats happening in their area.

Major Learning Outcomes : 1. Learning about various NLP models and using them in end to end applications.
2. Learning about various frameworks and languages like django(python) and React(javascript).
3. Implementing various open source libraries to make a fast and scalable product

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is very friendly where you are free to approach any member in the office for clearing any doubt. Everytime there was any roadblock we were provided with sufficient resources to make sure that we could get through our hurdles and develop a better product.w

Academic courses relevant to the project : Deep learning, Natural Language processing, OOP

PS-II Station : ARM Embedded Technologies Private Limited , Bengaluru

Faculty

Name: Manoj Subhash Kakade

Student

Name: SHREENIDHI JOISA H(2020A3PS2136H)

Student Write-up

PS-II Project Title: Running UPF Simulations with enabled assertions

Short Summary of work done during PS-II : My second task was to run UPF(Unified Power Format) simulations with enabled assertions. UPF Tests were being run with assertions disabled throughout the simulations. When Power is gated, assertions fire incorrectly due to X-propagations. The goal of the task given to me was to dynamically enable and disable the assertions based on power state. This was done by using \$assertoff and \$asserton statements. The concept of UPF involves isolation cells. In order to save power in the core(i.e. CPU), logic is used to isolate two power domains such that when one is ON, the other can be kept OFF, if necessary. Keeping the concept in mind, the intention in the task assigned to me is to enable assertions only during the period when isolate signals are active i.e. low. (Active low signal) and keep them disabled for the rest of the time period. Since there are many power domains created

in the model, I needed to use domain specific isolate signals and keep track of the turning ON/OFF of the assertions based on these domain specific isolate signals.

Tool used (Development tools - H/w, S/w) : SystemVerilog, Linux, Git, Verdi by Synopsys, QuestaSim

Objectives of the project : To improve the robust checking of a design with assertions included in the RTL

Major Learning Outcomes : -Better understanding of Low Power VLSI Design, UPF, SystemVerilog and UVM Flow.

-Better grasp on the ARM Architecture

Details of Papers/patents : None

Brief Description of working environment, expectations from the company :

- ARM promotes a positive work culture. It prioritizes employee development and growth.

The company offers a range of training programs, workshops and opportunities to help interns adjust to the new working environment and help them gain command over their work.

- ARM also offers flexible work arrangements and promotes a healthy work-life integration.

- I was assigned to the Power Verification Team .

- The Power Verification Team is a horizontal team for the top-level verification of the power features of the A and R Profile projects of the ARM CPU.

- I worked on the power verification of A class processors.

- I wasn't given strict deadlines to complete my work, however I was expected to report and update my manager with weekly progresses.

Academic courses relevant to the project : Computer Architecture(CS F342), Operating Systems(CS F372), Digital Design (EEE F215)

PS-II Station : Arroz Technology Pvt. Ltd. - Nontech , Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: ATHIF K P .(2019B5AB0764P)

Student Write-up

PS-II Project Title: Marketing and Operations Intern

Short Summary of work done during PS-II : As part of this internship, I independently planned and executed extensive restaurant outreach across targeted neighborhoods in Bangalore to acquire new partners for Froker's platform. My responsibilities encompassed preparing tailored pitches, distributing creatively designed pamphlets, and leveraging persuasive communication to compel partner sign-ups. Through persistent follow-ups addressing prospect skepticism, I successfully onboarded over 100 new restaurants which expanded Froker's presence and inventory offerings. Serving as the key contact during onboarding, I assisted partners in seamlessly integrating with our platform by resolving account configuration issues, providing menu digitization guidance, and coordinating with internal teams to enable smooth technical transitions. To aid the acquisition process, I designed engaging pamphlet brochures articulating our value proposition using branding best practices. Additionally, I spearheaded recruitment drives by contacting college placement cells to hire high-potential talent across functions. To boost brand visibility, I conceptualized and ran digital marketing campaigns across media platforms through content creation, budget management, and results tracking. I also led interns by strategizing initiatives and providing continuous feedback. Through this multitude of responsibilities, I gained invaluable real-world exposure to end-to-end marketing operations from partnership acquisition to onboarding.

Tool used (Development tools - H/w, S/w) : The restaurant partnership management and onboarding project leveraged a diverse array of hardware, software, and online platforms. Core

hardware included laptops and smartphones vital for fieldwork planning, research, designing collateral, and customer m

Objectives of the project : The objective was to expand the restaurant partner base through acquisitions in target markets. My role encompassed managing seamless onboarding for new partners while serving as the primary point of contact, creating compelling sales collateral, implementing structured tracking, identifying areas for process improvements, coordinating cross-functionally to enhance partner experience, and contributing to overarching company growth goals - all executed in a spartan manner using corporate best practices.

Major Learning Outcomes : The project provided hands-on experience in core marketing competencies including customer acquisition, partnership management, tailored communication, and overcoming skepticism through value propositions. I developed critical skills in structured trackin

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Froker is the burgeoning food delivery app under Arroz Technology which I was working on that aims to revolutionize the customer experience by integrating a social media platform. As a young startup, Froker had a small, tightly-knit team where I could interact closely with the founders and colleagues across functions. The environment was friendly and collaborative yet fast-paced. During my marketing internship, I was expected to play an instrumental role in driving restaurant partner acquisition and managing end-to-end onboarding with a high degree of independence. Key expectations included extensive fieldwork visiting potential partners across Bangalore to pitch Froker's offerings, maintaining meticulous tracking of prospect interactions, coordinating smooth onboarding by liaising with cross-functional teams, and supporting recruitment, PR, digital marketing and intern management initiatives. The role demanded strong communication skills, attention to detail, ability to multitask seamlessly and proactively take on critical client-facing responsibilities with minimal hand-holding. Froker's emphasis was on rapid learning agility, solution orientation and structured execution to further the company's ambitious expansion plans.

Academic courses relevant to the project : Operations Mangement , Supply Chain Managemnt ,Principles of Management ,Technical Report Writing

PS-II Station : Arroz Technology Pvt. Ltd. - Tech , Bengaluru

Faculty

Name: Lucy J. Gudino

Student

Name: KALAKOTI SAKETH REDDY(2019B5A41114H)

Student Write-up

PS-II Project Title: Admin Portal using MERN Stack & Froker Mobile App Revamp

Short Summary of work done during PS-II : Completed Froker Admin portal (web dev project) and worked on mobile app revamp

Tool used (Development tools - H/w, S/w) : Node, Express, React, React-native, MongoDB, Postman, Redux and Git.

Objectives of the project : Web dev project to complete Admin Portal for companys internal use and Mobile app revamp for Froker 2.0 version

Major Learning Outcomes : Learnt web development and app development from scratch. Learnt how industry level code is written and maintained. Got good experience by working using technologies and frameworks like Node, Express, React, React-native, MongoDB, Postman, Redux and Git.

Details of Papers/patents : NIL

Brief Description of working environment, expectations from the company : Working experience is good but the work space being not good and as a early stage startup the work is very fast paced

Academic courses relevant to the project : C Programming, DSA & OOPS

Name: KAIRAM SRUTHI .(2020A2PS1729P)

Student Write-up

PS-II Project Title: Centralized Resource Management and Analytics Dashboard

Short Summary of work done during PS-II : The project is on the development of admin dashboard for food delivery app, Froker. The creation of an interactive and reliable dashboard that presents insights on the performance and the scalability of application based on the various filters applied, is the aim of the project. The Dashboard gives the real time numbers and charts pertaining to the deliverables of the application. The controllers made for diverse metrics using MERN Stack, aid for the detailed and quick Data Analysis. The key performance indicators of the application can be studied and compared with the visualizations through graphs and charts.

Tool used (Development tools - H/w, S/w) : VS Code, MongoDB, Command Prompt, Jupyter, Git, GitHub.

Objectives of the project : The project aims to develop a comprehensive admin portal using the MERN (MongoDB, Express.js, React, Node.js) stack. This portal is designed to facilitate metrics visualization, central resource creation, and monitoring within an organizational setting. It serves as a one-stop solution for administrators to manage resources, monitor performance metrics, and gain insights into various aspects of their operations.

Major Learning Outcomes : Backend Development, Frontend Development, MERN Stack, Data Analytics, Central resource creation.

Details of Papers/patents : The project is a comprehensive solution utilizing the MERN stack to empower

administrators in efficiently managing resources within an organizational framework. This dynamic admin portal features customizable metrics visualization, facilitating real-time

Brief Description of working environment, expectations from the company : Arroz Technology Pvt Ltd is an Indian Private Unlisted Non - Government Company. The company provides services in areas of Computer Programming, Consultancy and Related Activities. The first product of this company is FROKER which is a food delivery application, aimed at solving challenges of present food delivery ecosystem. This food delivery startup offers to take no commission. It is also a great platform to all food lovers willing to make money. The principle of this start up is to prioritize customer above everything. The company is led by people who promote wonderful work culture and thus scope for employees to learn and excel.

Academic courses relevant to the project : Data Structures and Algorithms, Computer Programming.

Name: RAJDEEP DAS(2020A8PS1609G)

Student Write-up

PS-II Project Title: Data Analysis and Automation

Short Summary of work done during PS-II : The objective of this project was to improve the efficiency of the entire operations team by automating their day-to-day tasks using Python, implementing better database management techniques using MySQL and Excel Perform data analysis using Power BI and SQL, and building an Admin Portal for the company's employees. At the end of the project, my efforts successfully automated more than half of the tasks and boosted efficiency by more than 5 times and the dashboard project revealed several actionable insights for the company.

Tool used (Development tools - H/w, S/w) : MySQL Workbench CE 8.0, Power BI, VS Code

Objectives of the project : Automations of Manual tasks and Insights Generation using data analytics

Major Learning Outcomes : Frontend Development, Data Analytics and Business Development

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : A very dynamic fast-paced startup with a collaborative environment. opportunity to wear multiple hats and perform cross-departmental projects.

Academic courses relevant to the project : NA

PS-II Station : Azalp Technologies Pvt. Ltd. - IT , Bengaluru

Faculty

Name: Srinivas Kota

Student

Name: ABHIRAM REDDY CHALLARAM(2020A7PS1117H)

Student Write-up

PS-II Project Title: Development of Mobile applications for Android and iOS

Short Summary of work done during PS-II : Developed major screens for a number of B2B websites and applications

Tool used (Development tools - H/w, S/w) : React native, ReactJs, Android Studio, Code, NextJs

Objectives of the project : Designing multiple day to day apps for

Major Learning Outcomes : React native and ReactJs

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Warm and good team. Company has high priority for Team bonding

Academic courses relevant to the project : None

Name: SONESH KUMAR SWAIN(2020A7PS1729G)

Student Write-up

PS-II Project Title: Development of feature and screens for mobile applications

Short Summary of work done during PS-II : I was part of the full-stack team, so I handled both the frontend and backend of the app along with my mentor. The screens were designed solely by me. I had to translate the design from Figma into React Native code and run it on a dummy app to observe the screens. After the Product Manager observed the screens and permitted me to move forward, I started the backend development with my mentor. We had to allocate resources to store the data and metadata regarding the groups, people, events, and other objects. After that, we wrote APIs to handle the calls from the application and tested it on a testing server. After that, we gave the app to the QA team for testing. A few bugs were detected, which were solved instantly. After that, the app was updated on both iOS and Play Store for public use. I learned to make screens from the user's point of view and a few tricks in both the frontend and backend, ensuring fast coding and guaranteed results.

Tool used (Development tools - H/w, S/w) : MacBook Pro (M1), Youtube, VS Code, Android Studio, React Native, XCode, iOS emulator, Android emulator

Objectives of the project : => Create a networking subsection in an existing mobile application, requested by a creator working with the company. This subsection allows the creator's community to socialize in real time, interact with newly landed members, join groups for various discussion topics, etc. => Make a KYC section for creators only to manage their KYC questions to be asked to the community. => Make new screens for iOS apps to be sent to the Apple app store for release. => Make a congratulatory splash for the completion of an offering and obtaining the certificate only once.

Major Learning Outcomes : => Learnt to use React Native on an advanced level with customer requirements in mind.

=> Learnt many ethical practices to be followed in workplace.

=> Learnt to use MacBook Pro.

=> Learnt to use XCode on an intermediate level.

=> Learnt to design screens

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : => Working environment was a bit laid-back, which was better compared to heavy hustling of the classic corporate companies.

=> Work was expected to be done up-to at-least 90% of the entire coding base, wherein the rest 10% shall be filled in after extensive testing.

=> There was a little pressure whenever large creators put in their requests for their app or web domain.

=> There was no pressure to follow hierarchy and be extremely subservient to superiors like in classic corporates.

=> Half casuals was the usual norm for office-wear.

Academic courses relevant to the project : Software Development for Portable Devices (CS F314)

PS-II Station : Banyan Tree Advisors , Bengaluru

Faculty

Name: Gopalakrishnan Venkiteswaran

Student

Name: SIDDHANT SINHA .(2020A3PS0437P)

Student Write-up

PS-II Project Title: Fin Scribe: GPT based app for Financial Insights

Short Summary of work done during PS-II : AI technology has rapidly evolved over the last few years with OpenAI's ChatGPT being at the forefront of it. The latest in a long line of AI based apps, GPT-4 has allowed the user to ask queries based on a multimodal input. With its rapid rise more and more resources are being expended to perfect AI models to reduce manpower and resource consumption in the long run. Today, finance is one of the domains experiencing a rapid influx of AI technology with the introduction of Bloomberg GPT and many more such apps. However, as these apps have access to preexisting data and often agents in the form of internet, there is a high possibility of hallucination leading to errors. Here, at Banyan Tree, we value the credibility of data above all else. Thus, we come to our problem which is to "Gain financial insights from documents which are not subject to external influence and to do so rapidly in order to optimize the process of investment". Our project, in turn would streamline the data analysis and decisionmaking processes resulting in rapid resolution of queries. As we approach deployment, we must ensure seamless and optimal performance on the server. Throughout the process, our focus will be on maintaining the integrity and security of data while fast tracking the process of getting financial insights from transcripts to save time and resources. Our project centers on the creation and deployment of an innovative GPT-powered application that: Enables users to seamlessly upload documents and extract financial information from a transcript. Provides the

user with an option to query and extract data from a given file (including excel documents like screeners and scorecards) according to certain parameters.

Tool used (Development tools - H/w, S/w) : Langchain, ChatGPT, FAISS, Streamlit, HuggingFace, VSCode

Objectives of the project : Building a GPT-based application to optimize the process of stock analysis using Prompt Engineering

Major Learning Outcomes : As an intern working with Banyan Tree, my learning outcomes were multifaceted and enriching. Firstly, I gained a comprehensive understanding of various machine learning algorithms and techniques applicable to financial data analysis. Through hands-on experience

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Ravishankar WS, with his profound experience and knowledge, has been a remarkable guide. His willingness to share his insights has not only enriched my understanding of the intricacies of the financial sector but also empowered me to approach challenges with confidence. Sanjay Pranesh's teachings in the realm of finance have been nothing short of enlightening. The financial models and strategies he introduced have been instrumental in my professional development. His hands-on approach and real-world examples have helped me grasp complex concepts with ease.

I also want to thank the entire team for creating an enabling environment that fosters learning and growth. Special thanks to the entire research team for their constant support and encouragement.

Academic courses relevant to the project : NA

PS-II Station : Bento Labs Pvt. Ltd. , Hyderabad

Faculty

Name: Saikishor Jangiti

Student

Name: DHANUSH SOMA .(2020A7PS0050P)

Student Write-up

PS-II Project Title: ASSETSCAN: DATA ANALYSIS AND TRAINING

Short Summary of work done during PS-II : I've worked on two projects at Bento Labs. The first involved creating a dashboard using dash/plotly where I managed both frontend and backend tasks for around 5 weeks. After submitting the dashboard for QA, I've helped with occasional bug fixes. The second project, which I'm more actively involved in, is focused on collecting and analyzing data for AssetScan, a newer initiative. Alongside this, I've contributed ideas and features, tested their feasibility, and delved into real estate details to refine my analysis and ideas for the project. I've used machine learning models to predict outcomes from the collected data, making it more suitable for the project. Recently, I worked on building a news analysis model using NLP and OpenAI, as well as designing the database backend. I've explored OpenAI and various news APIs, conducted research, and experimented with data analysis to ensure our project aligns with the needs of the real estate industry. After developing the codebase, I deployed it onto the server and handled most of the bug fixes.

Tool used (Development tools - H/w, S/w) : OpenAI, BeautifulSoup, Selenium, Tensorflow, Torch, Keras, Dash

Objectives of the project : Make an machine learning model to analyse news.

Major Learning Outcomes : I learnt a lot about Machine Learning technologies and got to use them myself practically and get to understand the intricacies of each model.

Details of Papers/patents : .

Brief Description of working environment, expectations from the company : The working conditions are great. The environment in general is very open and free, which allows one to take responsibility of one's work without too much external pressure. There is decent flexibility with the work from home, although it is necessary to be in office for attendance. There are a bunch of talented people working here, meaning there are good guidances to take suggestions from. The company does expect the work to be fast and accurate, the environment is pretty fast-paced. It is also expected to own up to any mistakes rather than letting it pile up and slow down the work flow. But besides all that, it is a very chill and welcoming environment to work at.

Academic courses relevant to the project : Database Management Systems, Data Structures and Algorithm

Name: SANJANA PADAVALA .(2020A7PS1207P)

Student Write-up

PS-II Project Title: FULL-STACK AT PROPFLO: EXPERIENCES AND INSIGHTS

Short Summary of work done during PS-II : I did frontend work in the flagship project of the organisation, and created a fullstack project from the ideation stage to completion

Tool used (Development tools - H/w, S/w) : Angular, NodeJS, Python

Objectives of the project : The project aims to produce quality web development work, in the domains of both Frontend and Backend development.

Major Learning Outcomes : Gained extensive knowledge of web development, learned professional soft skills.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Low pressure environment with good space for learning, with somewhat limited guidance and structure.

Academic courses relevant to the project : Data Structures and Algorithms, Database Management Systems, Human Computer Interaction

Name: VIHAL J ROTTI(2020AAPS1030G)

Student Write-up

PS-II Project Title: Product Intern

Short Summary of work done during PS-II : As the Product Intern at Bento Labs, a significant part of my role involved a comprehensive transformation of the Assetmonk platform and its associated portals. This included a complete UI overhaul for the Investor Portal, introducing new features like Updates, Investment Summary and many more. I implemented an exclusive "Approval Workflow" feature for the Admin Portal, facilitating a hierarchical approval process for various components. In parallel, the Channel Partner Portal underwent a total revamp, incorporating features such as a Commission Calculator, Investment Options, Set Your Goal, Dashboard, and the critical functionality of adding investors. Unfortunately, detailed insights into this portal are not shareable due to ongoing development. I have also set the base for a new asset management product related to ideation, research and prototype. These initiatives enhanced the visual appeal of the portals and added substantial functionality, contributing significantly to the user experience and overall value proposition of Assetmonk within Bento Labs' product ecosystem.

Tool used (Development tools - H/w, S/w) : S/w - Figma, Confluence, Whimsical, Miro, Google Docs, Jira, Beefree , Notion, Pitch,

Objectives of the project : To improve the current product at the company in terms UX/UI and introduction of new features

Major Learning Outcomes : Problem Solving, Digital Collaboration Skills, Project Management Expertise ,Design Thinking Competence, Effective Communication, Innovation and Ideation, User-Centric Approach, Data-Driven Decision-Making, Cross-Functional Collaboration, Prototyping & Te

Details of Papers/patents : Nothing as such

Brief Description of working environment, expectations from the company : Bento Labs cultivates an innovative and collaborative working atmosphere, promoting agility and open communication within cross-functional teams. The environment prioritizes user-centric design, fostering continuous learning and growth. The variety of tasks undertaken, from UI/UX design to data-driven decision-making, reflects a results-oriented approach, offering valuable opportunities for personal and professional development.

Academic courses relevant to the project : TRW, Mathematics, Probability and Statistics

PS-II Station : Bharat Forge -Manufacturing , Pune

Faculty

Name: Naga V K Jasti

Student

Name: ARCHIT MANISH SATHE(2020A4PS1885P)

Student Write-up

PS-II Project Title: Implementation of Q-DAS software in MCD-II department

Short Summary of work done during PS-II : The Q-DAS software requires input in a specific file format called dfq. In order to generate the dfq files, first we need to create templates in the dfxi and dfdi format. These templates are for the inspection data that is obtained by the Adcole gauge. Once the standard template is created, the data is automatically transformed into the dfq format by the software and can be inputted into Q-DAS for further analysis. In order to create the templates, I first needed to confirm which dimensional parameters are required for the specific die for which the template was being created. Then I had to organize all the parameters in a specific sequence according to the particular syntax of the software. Finally, after the dfq file generation, I had to verify all the files for manual input errors committed by operators before inputting the files into Q-DAS. I had to perform this activity for all the different forging dies used to produce the workpieces received.

Tool used (Development tools - H/w, S/w) : Quality Data Analysis Software (Q-DAS), MS Excel

Objectives of the project : Implement Quality Data Analysis Software (Q-DAS) on the Adcole gauge in the Machined Components Division - II (MCD-II) to facilitate ease in data analysis

Major Learning Outcomes : Through this project, I learnt about the various inspection procedures conducted as a part of quality assurance. I got to learn about the different types of equipment/machinery used to conduct the dimensional inspection testing and the various parameters

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was not very motivating. Some employees expressed displeasure at our presence within the workplace. While our mentor was quite helpful, his manager seemed to experience sadistic pleasure whenever we encountered any difficulties. We received conflicting instructions from different levels in the hierarchy creating confusion which our mentor was hesitant to resolve. The project was finalized very late into the internship. Expectations from the company were also quite unclear. In fact, we had to explain to our mentor what the term 'internship' meant. While we did get to learn quite a bit, overall it was not a very positive experience.

Academic courses relevant to the project : Probability & Statistics; Quality Control, Assurance & Reliability

Name: SHAURYA BANSAL .(2020ABPS1830P)

Student Write-up

PS-II Project Title: Implementation of Q-DAS in MCD-2

Short Summary of work done during PS-II : The PS-II project revolved around implementing Q-DAS software at the Standards Room of the Machine Component Division-2 in Bharat Forge. It encompassed learning about Q-DAS functionalities, identifying compatible instruments, exploring parameter compatibility, and training employees for data collection, analysis, and optimization. The project involved generating, converting, and managing quality data files using specific gauges and software. Additionally, it entailed an in-depth exploration of QS-STAT and Q-DM for statistical analysis and quality management. Throughout the project, the focus was on refining processes, troubleshooting challenges, and enhancing overall quality control using Q-DAS tools.

Tool used (Development tools - H/w, S/w) : Q-DAS, MS-Excel, SAP, MATLAB

Objectives of the project : Implement Q-DAS software for enhancing quality control processes. Train employees and perform data collection, analysis, and optimization using Q-DAS.

Major Learning Outcomes : Comprehensive understanding and familiarity with Q-DAS software and its applications.

Proficiency in data collection, analysis, and optimization using integrated parameters.

Skills in troubleshooting software challenges and refining data collection strate

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The work environment fostered a friendly atmosphere, deviating from the traditional structured workday setup. Project-related tasks were assigned during weekly meetings, allowing flexibility in managing our time. The company anticipated weekly progress reports, regular attendance, and active participation in scheduled meetings on a monthly basis.

Academic courses relevant to the project : Mechanics of Solids, Metallurgy and Quality Assurance

PS-II Station : Bharosepe Technology Services Privated Limited (Known as Jodo) , Bengaluru

Faculty

Name: Venkata Krishna Sashank Dara

Student

Name: GAURAV BANSAL(2019B4AA0748H)

Student Write-up

PS-II Project Title: Optimizing Operational Efficiency with an Automated Data Integration Solution

Short Summary of work done during PS-II : At Jodo startup, I played a pivotal role in diverse data initiatives. I developed a Python script for comprehensive vendor transaction reconnaissance, using APIs for tailored data extraction. Implemented MapReduce for large-scale data processing on AWS S3, enhancing performance. Formatted data for Product and Analytics teams, ensuring usability. Established a robust data catalog with AWS Glue for efficient dataset

management. Leveraged AWS Athena for insightful queries on the organized data catalog. Configured Debezium for real-time database change tracking. Conducted preprocessing for data pipeline readiness, initialized seed data, and ensured comprehensive data validation for the Data Warehouse. Facilitated AWS QuickSight integration using boto3, enabling dynamic dashboard rendering on the company's website. Addressed authentication challenges and enabled access for anonymous users. Optimally filled tables in the destination using Hevo, ensuring seamless data integration. Validated incoming data in Hevo, applying stringent checks for data warehouse integrity. Implemented Hevo's transformation scripts for precise data shaping. Concluded the data warehouse implementation, ensuring seamless integration and conducting thorough sanity checks with Grafana metrics. The collective efforts aimed to establish a robust data infrastructure supporting strategic decision-making and analytics.

Tool used (Development tools - H/w, S/w) : AWS, S3, GLUE, ATHENA, Debezium, Python, GitHub

Objectives of the project : To automate the entire process of vendor transaction reconciliation, and implement a data warehouse infrastructure for the organization.

Major Learning Outcomes : Agile Problem-Solving: Navigated a high-paced startup environment, adapting swiftly to changing requirements and effectively resolving authentication and access challenges.

Cloud and Big Data Mastery: Leveraged AWS services for data processing, storage, a

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Jodo offers a dynamic and collaborative working environment characteristic of a high-paced startup. The company values innovation, encourages proactive problem-solving, and fosters a culture of continuous learning. Employees are expected to take ownership of projects, collaborate across teams, and demonstrate a commitment to excellence. The startup environment requires flexibility, adaptability, and staying current with industry trends. Jodo emphasizes diversity, equity, and inclusion, recognizing the value of varied perspectives in driving innovation. Overall, the company expects its team members to be proactive, resourceful, and collaborative contributors to its mission and growth.

Academic courses relevant to the project : DSA, OOPS, OS

PS-II Station : Bigtec Private Limited - IT , Bengaluru

Faculty

Name: Gopala Krishna Koneru

Student

Name: GANDHI SIDDHARTH MANDAR(2019A8PS0448G)

Student Write-up

PS-II Project Title: Cell lysis through ultrasonification

Short Summary of work done during PS-II : Going through Research papers to understand the working of Langevin Transducer, running simulations of the equivalent circuit, designing a driving circuit, achieving a functional product with a power manager.

Tool used (Development tools - H/w, S/w) : Orcad, LTspice, Simulink

Objectives of the project : Achieve a driving circuit for a langevin transducer, ideate a power manager and realize a functional 0 to 1 product.

Major Learning Outcomes : OrCAD schematics, LT Spice simulations and understanding Power managers for a product.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Completely remote, not a strict environment but interaction with the managers is limited.

Academic courses relevant to the project : Advd, mup, mue

PS-II Station : Birla Copper - Core Engineering , Bharuch

Faculty

Name: Samir Kale

Student

Name: NAMAN NANDWANA .(2019B5A10832P)

Student Write-up

PS-II Project Title: Inventory Management Dashboard

Short Summary of work done during PS-II : During my PS-II, I undertook the development of an Inventory Management Dashboard, a pivotal project aimed at revolutionizing inventory control within the Continuous Casting and Rolling (CCR) plant. The project's primary focus was to address the challenges associated with managing a substantial inventory and frequent shortages of critical items. I began by collating comprehensive inventory-related datasets from various departments, encompassing item descriptions, current inventory levels, values, consumption patterns, minimum levels, and lead times. Leveraging advanced data analysis techniques, I meticulously examined this data to derive valuable insights into usage patterns and potential shortages. Using Power BI, I developed a dynamic dashboard that categorized inventory items based on criticality, movement patterns, and values, enabling stakeholders to visualize and understand the inventory landscape efficiently. The dashboard's analytics allowed for proactive

identification of potential shortages by analyzing current inventory levels and consumption rates. It provided actionable insights to optimize inventory control strategies, enhancing decision-making processes. The project not only offered a user-friendly visualization of inventory data but also laid the groundwork for data-driven, proactive inventory management practices within the CCR plant, fostering operational efficiency and minimizing shortages.

Tool used (Development tools - H/w, S/w) : Excel, PowerBI, Python

Objectives of the project : 1. Integrated Inventory Tracking System: Develop standardized criteria for consistent inventory tracking. Integrate diverse inventory data into a unified analysis platform. 2. Real-Time Inventory Monitoring: Implement a live dashboard for prompt inventory insights. Analyze turnover rates and trends to optimize inventory strategies.

Major Learning Outcomes : The Inventory Management Dashboard project led to several pivotal learning outcomes instrumental in refining inventory control practices within the CCR plant. It notably emphasized the significance of data-driven decision-making, elucidating the importance

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment I seek within a company is one that fosters a culture of innovation, collaboration, and continuous learning. I value an environment that encourages open communication, where diverse perspectives are embraced, and creativity is encouraged. A supportive atmosphere that promotes teamwork, knowledge sharing, and mutual respect among colleagues is essential for me. I am committed to contributing positively to the company's goals and objectives by leveraging my skills in problem-solving, data analysis, and project management. I aim to apply my expertise in developing solutions that add value to the company's operations, particularly in areas such as inventory management, process optimization, or technology integration. I aspire to work in an environment that values initiative, where my contributions are recognized, and there are opportunities for professional growth and development. My expectations include being part of a dynamic team that values innovation, encourages personal and professional development, and provides a platform to make meaningful contributions towards the company's success.

Academic courses relevant to the project : Finance Minor Courses, Modeling And simulation for chemical engineering

Name: ANSHH SEKSARIA .(2020A1PS1472P)

Student Write-up

PS-II Project Title: Working Capital Management - Stores Inventory Optimization

Short Summary of work done during PS-II : (mentioned in the report submitted on PSMS)

Tool used (Development tools - H/w, S/w) : MS Excel

Objectives of the project : Finding the Optimal Levels of MRO Inventory

Major Learning Outcomes : Data Analysis, MS Excel, Working Capital Management, MRO Inventory Optimization

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Extremely Remote Place, Commuting Issues, HR Not Cooperative, Low Growth Opportunities

Academic courses relevant to the project : Fundamentals of Finance and Accounting, Supply Chain Management, Financial Management

Name: ISHIKA BHARDWAJ(2020A1PS1975G)

Student Write-up

PS-II Project Title: Market Expansion of Copper Slag

Short Summary of work done during PS-II :

- Detailed understanding of the copper smelting process has been achieved. Collaboration with different plant departments completed for comprehensive insights.
- Conducted three market visits, engaging with various customers for copper slag. Valuable feedback received, providing insights for product improvement and market positioning.
- Completed a comprehensive research report on the current uses and properties of copper slag. Insights gathered from research papers and studies contribute to a deeper understanding.
- Identified and documented three new potential markets for copper slag. Analysis of market trends and customer feedback facilitated the discovery of untapped opportunities.
- Data compilation is in progress. Initial content drafts for copper slag have been created. Coordination has begun with the web development team to plan the integration process.
- Collaborated with ceramic industry experts to understand production processes. Profit estimation and detailed research on the process of forming black ceramic tiles completed.
- Conducted market sizing assessments for copper slag applications in utility poles and compound walls. Evaluated the feasibility and potential profitability of entering these new markets

Tool used (Development tools - H/w, S/w) : Excel, Powerpoint

Objectives of the project :

- Comprehensive Understanding of Copper Smelting Process
- Research on Current Uses and Properties
- Identification of New Markets
- Improving Customer Accessibility
- Market Sizing for New Applications

Major Learning Outcomes : Visit various departments at plant. Meet with technical experts and understand how the plant functions.

Establish a structured feedback mechanism during customer interactions. Compile and analyze customer complaints to identify patterns and areas for enh

Details of Papers/patents :

https://www.researchgate.net/publication/249959486_Use_of_Copper_Slag_and_Cement_By-Pass_Dust_as_Cementitious_Materials.

<https://link.springer.com/article/10.1007/s10163-020-01162-8>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7040580/>

<https://www.science>

Brief Description of working environment, expectations from the company : Situated in a remote location with limited access to restaurants and amenities, the company's overall environment is satisfactory. However, challenges arise from an unhelpful township administration, leading to significant issues such as water shortages due to cooler malfunctions, which took days to address. Accommodation consists of a shared room for two people, and regrettably, there was a bullying incident involving a senior.

While interpersonal interactions among colleagues vary, some individuals display friendliness. Unfortunately, the HR manager's lack of cooperation poses additional challenges. On a positive note, my project manager played a pivotal role in enhancing my overall experience through exceptional support.

There is room for improvement in fostering a more open-minded environment, particularly in treating interns with equal respect as full-time employees. Addressing these aspects could contribute to a more positive and inclusive workplace culture.

Academic courses relevant to the project : Process Plant and Safety

Name: [SIMRATJIT SINGH\(2020A4PS2179H\)](#)

Student Write-up

PS-II Project Title: Study of heat transfer and compare it with design to identify deviation in catalytic converters

Short Summary of work done during PS-II : I have analyzed critical heat transfer equipment installed in the SAP-III which in my case are CHE, HHE & SH. With the aim to find the deviation, I have been able to calculate the respective overall heat transfer coefficients. I compared the deviation of the plant temperature values from the design temperature values (according to manufacturer) & along with the LMTD to evaluate which heat exchanger is not running properly & to get the preheater run in auto-thermal state.

Tool used (Development tools - H/w, S/w) : excel, python libraries(numpy, pandas, matplotlib)

Objectives of the project : to identify the reasons for preheater not running in auto-thermal state

Major Learning Outcomes : I gained insight into the step-by-step manufacturing processes.

I learnt about the assembly line and how products move through different stages of production.

I understood the importance of quality control measures in place to ensure product quality.

I un

Details of Papers/patents : Heat transfer plays a crucial role in the performance and efficiency of various industrial equipment, including catalytic converters and heat exchangers. This study aims to investigate heat transfer mechanisms in these critical components, compare their p

Brief Description of working environment, expectations from the company : Birla Copper boasts a dynamic and collaborative working environment, characterized by the harmonious blend of hands-on engagement and cutting-edge technological integration within their state-of-the-art facilities. The atmosphere on the shop floor is a symphony of machinery, underscored by their unwavering commitment to safety, reflecting their dedication to creating a secure and productive workspace.

In this environment, they hold high expectations for their employees. They look for individuals who embody a proactive approach to problem-solving, showcasing a steadfast commitment to quality and precision in their work. Teamwork is fundamental, and cross-functional collaboration is actively encouraged to enhance efficiency across departments. For instance, their assembly line teams exemplify this expectation, working cohesively to ensure seamless transitions between production stages and maintaining an uncompromising standard of product quality. To support continuous growth, they provide regular training sessions and skill development programs, empowering employees with the knowledge and tools needed to excel.

At Birla Copper, they value individual contributions and foster an open dialogue where ideas are shared and considered. Their expectations extend beyond daily tasks; they seek adaptable individuals who embrace challenges and are dedicated to personal and professional growth. By cultivating a positive and inclusive working environment, they aspire to inspire their team to reach their fullest potential, contributing to the overall success and innovation of the company.

Academic courses relevant to the project : Heat Transfer, CFD, Advanced Manufacturing Processes, Optimization, Manufacturing Management

PS-II Station : Birla Copper - IT , Bharuch

Faculty

Name: Amar Singh

Student

Name: JAGRATI SAINI .(2020D2PS1289P)

Student Write-up

PS-II Project Title: "Transformative Data Insights: Unleashing the Power of Oracle Analytics Cloud (OAC) and APEX for Advanced Analysis"

Short Summary of work done during PS-II : Oracle APEX emerges as a potent tool for streamlined web application development, catering to a range of developers with its low-code approach. When integrated with Oracle Analytics Cloud (OAC), a synergistic alliance forms, bridging advanced analytics and application development seamlessly. This collaboration facilitates a unified platform for extracting and swiftly implementing insights, aligning with the dynamic landscape of data-driven decision-making. Noteworthy outcomes from the organizational venture into advanced analytics include impactful Sales and Customer Complaints Dashboards, Trial Dashboards, and Applications, Workshop Cost Analysis Dashboard on OAC, and a comprehensive HR Dashboard. The adaptability of OAC APEX Applications in digitizing Workshop Inventory Management showcases a strategic move towards efficiency. Despite celebrated achievements, challenges exist, including integration concerns, standardization gaps, and issues with user adoption and scalability. Data accuracy concerns in the HR Dashboard and

potential gaps in user acceptance testing for OAC APEX applications necessitate focused attention. The way forward involves integrated solutions, standardization strategies, enhanced user training, scalability planning, measures for data accuracy, and a concentrated exploration of OAC APEX capabilities, with critical emphasis on security enhancements for Workshop Inventory Management applications.

Tool used (Development tools - H/w, S/w) : Oracle analytics cloud (OAC), oracle application express (APEX), Tableau, Powerbi ,

Objectives of the project : To understand deeply how data analysis process is done using different tools in industrial scenarios

Major Learning Outcomes : User Adoption Insights

Scalability Realities

Data Accuracy Priorities

User Acceptance Protocols

Focused Exploration of OAC APEX

Security Enhancement Imperatives

Documentation Enhancement

Holistic Approach

Details of Papers/patents : Only research articles were read to understand the whole data analytical process.

Brief Description of working environment, expectations from the company : Guidance were provided but domain specific knowledge were missing .So I think if that would be provided with domain specific mentors.

Academic courses relevant to the project : No specific course was done for data analysis project

PS-II Station : Birla Copper - Non IT , Bharuch

Faculty

Name: Sameer Gupta .

Student

Name: SHUBHAM KUMAR .(2019B2A11005P)

Student Write-up

PS-II Project Title: Tranformation Project

Short Summary of work done during PS-II : My internship at Birla Copper centred on a transformation business project with the overarching goal of cultivating a pervasive problem-solving culture among employees. This initiative strategically positioned the company to navigate the forthcoming challenges and capitalise on opportunities in the dynamic copper industry. The program focused on reshaping culture and capabilities of employees, fostering collaboration, ownership, and engagement across departments. Addressing needs of both internal and external customers, the aim was to establish a workplace that not only attracted but retained talent, creating a collaborative environment where employees felt sense of ownership. The project aimed to elevate the company to a global leadership position by emphasising cultural and capability enhancements that could set industry benchmarks. Integral to this transformation was the integration of a culture of continuous improvement and the establishment of refined processes in both manufacturing and services. The company's commitment to sustainability and safety further positioned it as a market leader in these critical areas. On a personal level, this internship significantly enhanced my leadership skills, fostering a mindset of continual learning and openness to diverse perspectives. I played a crucial role in developing an interactive dashboard to monitor key performance indicators for various program initiatives. Additionally, I applied facilitation skills to lead meetings for improvement projects, conducted seminars on structured problem-solving, and utilised tools such as Power BI and Excel for data analysis, providing crucial insights for targeted improvements within the plant. The experience was transformative, contributing to both my professional and personal growth.

Tool used (Development tools - H/w, S/w) : MS Excel, PowerBI, Powerpoint

Objectives of the project : Hands on experience on large scale sustainable industrial business transformational on cultural and capability level.

Major Learning Outcomes : This business transformational project gave me holistic learning experience, covering project management fundamentals, standardised processes, and leadership skills. The project helped me to understand culture and capability building in an organisation a

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Upon induction into Birla Copper's extensive business transformation program, I initially dedicated weeks to understanding the organisational structure and the various initiatives shaping the company's evolution. The working environment was dynamic, with a strong emphasis on capability building and value creation. Interactions with shop floor workers and department heads revealed a collective focus on the company's larger picture, fostering collaboration and aligning efforts toward common goals.

The employees warmth and openness made the transition seamless. Despite the initially time-consuming process of aligning individuals with the broader company objectives, the resulting collaborative work culture proved rewarding. The company's compensation package is decent, but the real value lies in the opportunity for holistic manufacturing experience. For those passionate about manufacturing, Birla Copper provides a platform to contribute meaningfully to the ongoing transformation and gain a comprehensive understanding of the industry dynamics.

Academic courses relevant to the project : Project Management

PS-II Station : BlackRock Services , Gurugram

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: MANAS CHATURVEDI(2019B3AA0488G)

Student Write-up

PS-II Project Title: Implementation of Integration Testing Framework

Short Summary of work done during PS-II : My internship project at BlackRock aimed to implement a robust integration testing framework for two distinct servers handling diverse time series and matrix data. The overarching goal was to enhance the reliability of data calculations within these servers. The project aimed to streamline the testing process, mainly focusing on regression testing, to ensure the servers' seamless interaction and accurate functioning. By implementing this framework, the project significantly reduced the time required for regression testing and detecting differences in data calculations. In essence, the project played a pivotal role in fortifying the accuracy and efficiency of the servers while contributing to the broader objective of ensuring robust and reliable financial data management at BlackRock.

Tool used (Development tools - H/w, S/w) : Java,Intellij

Objectives of the project : To implement an internal framewrok for different types of server

Major Learning Outcomes : Technical learning-Java,design patterns, Frameworks like Cucumber etc.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good culture. Everyone was helping

Academic courses relevant to the project : NA

PS-II Station : BlokTrek , Bengaluru

Faculty

Name: Lucy J. Gudino

Student

Name: MITTAPALLI SREETHEERDHA(2020A7PS1889H)

Student Write-up

PS-II Project Title: Development of data pipelines and API's for the product

Short Summary of work done during PS-II : I've worked on multiple things that were crucial to my station, The main aspect revolves around Data engineering and Devops. Basically created a data pipeline for ingestion of data brought by data team from various sources in the form of excel files. After ingesting the file, we process the data and store in the database as a form of a dict, later process the data and upload the processed text in a json file to be ingested by the vector database for the DS team to work on. Later on created an API so that the data can be downloaded in the same excel format and be sent via mail for the analyst team to review and make changes in them. Later also worked on creating API's on live site and populating the required data for the api's to fetch from the database. This population included working with vector database and later making a gpt-call to our chatbot to get the data in the desired format and the api would send this to the front-end.

Tool used (Development tools - H/w, S/w) : Python, Serverless framework, MongoDB, Studio 3T, Git hub, Git, AWS

Objectives of the project : To create robust piplines and API's related to the product

Major Learning Outcomes : Learnt how to use cloud services like AWS , learnt to deploy lambdas and api's using aws also learnt to work as a part of team, how to interact with different teams in our org as well as other external tech teams.

Details of Papers/patents : No papers were published

Brief Description of working environment, expectations from the company : The work environment is great, though there are not heavy working hours like couple of MNC's we are expected to finish our work , (have flexibility to do it after going back to home/pg). The mentors/peers/colleagues here are great and as they know we are freshers, they give proper guidance for us step by step so that we could become the developers we are now. The only expectations company has is do proper work without skipping anything(can approach them as many times as we want if we have any doubts) and be available during working hours and complete the work in a robust manner.

Academic courses relevant to the project : OOPS, any other courses that help with python programming(like FODS,NLP,ML)etc

PS-II Station : Blue Jeans Network India Pvt. Ltd. , Bengaluru

Faculty

Name: Saikishor Jangiti

Student

Name: PUTTAPAKA SHASHANK .(2020A7PS0005P)

Student Write-up

PS-II Project Title: Migrating code of pre event page from older stacks to react usin hlg typescript

Short Summary of work done during PS-II : I have learnt how to write typescript code which was new to me and also learnt react using mobx as state management. So after carefully understanding the code i tried to write test cases for the typescript+react files and during the process if faced any issues i used to approach my mentor who helped with most of my doubts.

Tool used (Development tools - H/w, S/w) : React js,typescript,mobx state management,jest for unit testing,requestly

Objectives of the project : Writing test cases using jest for the pre event page of attendees for the events project

Major Learning Outcomes : Learned Typescript,React along with mobx and how to write test cases for those files

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : I used to have a meet every 2 or 3 days with my mentor discussing the progress in my project and if had any doubts that would be solved during the meet. Any time during the day if had any issues whole team are happy to help me out. A good environment to learn .

Academic courses relevant to the project : Computer networks,OOPS,DSA

Name: [ARYA ABHAYA KULKARNI.\(2020A7PS1683P\)](#)

Student Write-up

PS-II Project Title: Migrating Backend Microservices from Java 8 to Java 17

Short Summary of work done during PS-II : I was instructed to migrate one of the backend microservices: the recording service to the latest tech stacks using the Spring Framework. I worked with MySQL for database management, Docker for containerization and Redis for

implementing a caching infrastructure. Most of my work revolved around refactoring the old service, making the code more efficient wherever I could. This included rewriting entire functions to improve efficiency and functionality and also making the service independent of the other services. In the old code, much of the services were setup in a monolithic architecture. Added proper exception handling as well.

Tool used (Development tools - H/w, S/w) : MySQL, Spring/SpringBoot, Redis, Docker

Objectives of the project : Migrating backend microservices to the latest tech stacks

Major Learning Outcomes : Backend Development, Database Management

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : I had a meeting with my mentor every other day where we discussed the project and where I updated him on the progress. Weekly meetings were held with the team where problems I couldnt resolve just with the mentors aid, could be solved with the help of the entire team. The working environment overall was quite relaxed and beneficial.

Academic courses relevant to the project : Database Management, Data Structures and Algorithms, Computer Networks

PS-II Station : Bluelearn (Clinify Pvt Ltd) , Bengaluru

Faculty

Name: Sangeetha Viswanathan

Student

Name: ADITI SETHI(2019B5A70261G)

Student Write-up

PS-II Project Title: Solving Problems Through Product Thinking

Short Summary of work done during PS-II : My role was primarily devoted to comprehensive user research to enhance user-centric decision-making. User research involves resources allotted to uncovering valuable insights into users' likes, dislikes, and overall requirements. Through interviews, surveys, and in-depth studies, data on user preferences and challenges was gathered for three different problem statements. These findings were synthesized into usable insights (with the aid of affinity maps, empathy maps, user personas, etc.), which helped propose KPIs and solutions, which then helped with product development.

Tool used (Development tools - H/w, S/w) : Figma, Google Sheets, Google Docs, Jupyter Notebook

Objectives of the project : Multiple projects were allotted over the course of the internship, as an when new features of the application needed user insights. Three projects were completed end-to-end, using the Discover-Define-Ideate framework to collect data about stakeholders through primary research (interviews and surveys) and secondary research (academic journals and competitor analysis), synthesize the gathered information into applicable key insights (with the aid of affinity maps, empathy maps, user personas, etc.), and propose KPIs and solutions. The objective was to carry out this process for each problem statement.

Major Learning Outcomes : I've come to understand the vital importance of grasping users' needs and concerns, and have developed a deep understanding of users' behaviour and challenges and a sense of user empathy. It also helped me navigate the balance between quantitative data (f

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was very friendly and welcoming. The team is very small currently and this made for

a good amount of involvement in the projects. My mentor helped me out whenever I asked any questions and provided support over the course of the projects. The company expected timely deliverables, but the timelines were reasonable and practical and I was able to adhere to them.

Academic courses relevant to the project : Human-Computer Interaction

PS-II Station : Carbon Impact Capital Pte Ltd , Singapore

Faculty

Name: Samir Kale

Student

Name: SHRAVANI KULKARNI(2020A1PS2052G)

Student Write-up

PS-II Project Title: Project Jal Samriddhi

Short Summary of work done during PS-II : Management of project, conducting meetings regularly with NGO partners, conducting research on various filters, ftk's and projects, preparing reports for baseline and pilot testing, preparing water source form on surveyCTO, preparing a project deck for a drinking water project in Nepal.

Tool used (Development tools - H/w, S/w) : Google, Excel, SurveyCTO, Xara

Objectives of the project : To distribute 15000 water filters in rural areas of Niwari and Tikamgarh districts of Madhya Pradesh.

Major Learning Outcomes : How to conduct primary and secondary research, project management, creating reports.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The mentors were very supportive, it was a remote role and the working hours were flexible. Tasks would be assigned by the mentor on a daily basis or as required and regular follow ups were done on the projects.

Academic courses relevant to the project : TRW

Name: Harshit Sharma(2020A3PS0343P)

Student Write-up

PS-II Project Title: Data Analysis and Management.

Short Summary of work done during PS-II : Development and management of PowerBI dashbaords for various databases and Excel data management.

Tool used (Development tools - H/w, S/w) : Microsoft PowerBI, Excel, Powerpoint

Objectives of the project : Development and management of PowerBI dashbaords for various databases and Excel data management.

Major Learning Outcomes : Technical skills like Excel, PowerBI, managerial skills, diplomacy etc.

Details of Papers/patents : No papers as such.

Brief Description of working environment, expectations from the company : Moderate to hectic workload but lot of learnings in the field of Data Analysis and Management and overall a good experience. Particularly recommended for someone intrested in the Carbon sector.

Academic courses relevant to the project : None as such

PS-II Station : CASHe , Hyderabad

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: DENDI DHEERAJ(2019B2A41128H)

Student Write-up

PS-II Project Title: Modernizing IT Infrastructure: Coralogix API Monitoring, Django-Based Asset Management Portal, and AWS Secrets Manager Integration.

Short Summary of work done during PS-II : In this project, I orchestrated a comprehensive enhancement of our IT infrastructure by integrating Coralogix for advanced API monitoring, developing a sophisticated IT asset management portal using Django, and implementing secure credential management through AWS Secrets Manager. The integration of Coralogix bolstered our real-time monitoring capabilities, providing invaluable insights into the performance and health of our company application. The custom Django portal I developed facilitates efficient IT asset management, allowing the IT team to track and optimize resources seamlessly. Additionally, the incorporation of AWS Secrets Manager significantly improved the security posture of our application by centralizing and securing sensitive credentials. This not only ensures a more robust defense against potential security breaches but also streamlines the management of access permissions.

Tool used (Development tools - H/w, S/w) : Docker, IntelliJ, Eclipse, VS code, Postman, Git, Bitbucket, Django, MySQL, PostgreSQL, Dbeaver, AWS secrets manager, Jmeter, MobaXterm.

Objectives of the project : Modernize the IT infrastructure by implementing comprehensive monitoring, efficient asset management, and secure credential storage, with the overarching goal of improving overall operational efficiency within the organization.

Major Learning Outcomes : The learning outcomes of the project are diverse, covering technical, operational, and strategic aspects like Technical Proficiency, Operational Efficiency, Problem-Solving and Troubleshooting, Project Management and Coordination, Security Awareness, Docu

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : In the dynamic and collaborative environment at CASHe, I have experienced a workplace culture that fosters innovation, teamwork, and continuous learning. The company provides a positive and inclusive working atmosphere which greatly contributes to professional growth and job satisfaction. The expectation from the company is not merely a set of tasks but a shared commitment to excellence and the pursuit of meaningful goals. The transparent communication channels and open-door policy have made it easy to collaborate with colleagues and leadership alike. This collaborative spirit, coupled with a dedication to embracing emerging technologies, has created an inspiring atmosphere that encourages creativity and problem-solving.

Academic courses relevant to the project : DBMS, OOP, DSA.

Name: [BIJIVEMULA SAI NATH REDDY\(2019B2A41544H\)](#)

Student Write-up

PS-II Project Title: Modernizing IT Infrastructure: Coralogix API Monitoring, Django-Based Asset Management Portal, and AWS Secrets Manager Integration.

Short Summary of work done during PS-II : In this project, I orchestrated a comprehensive enhancement of our IT infrastructure by integrating Coralogix for advanced API monitoring, developing a sophisticated IT asset management portal using Django, and implementing secure credential management through AWS Secrets Manager. The integration of Coralogix bolstered our real-time monitoring capabilities, providing invaluable insights into the performance and health of our company application. The custom Django portal I developed facilitates efficient IT asset management, allowing the IT team to track and optimize resources seamlessly. Additionally, the incorporation of AWS Secrets Manager significantly improved the security posture of our application by centralizing and securing sensitive credentials. This not only ensures a more robust defense against potential security breaches but also streamlines the management of access permissions.

Tool used (Development tools - H/w, S/w) : Docker, IntelliJ, Eclipse, VS code, Postman, Git, Bitbucket, Django, MySQL, PostgreSQL, Dbeaver, AWS secrets manager, Jmeter, MobaXterm.

Objectives of the project : Modernize the IT infrastructure by implementing comprehensive monitoring, efficient asset management, and secure credential storage, with the overarching goal of improving overall operational efficiency within the organization.

Major Learning Outcomes : The learning outcomes of the project are diverse, covering technical, operational, and strategic aspects like Technical Proficiency, Operational Efficiency, Problem-Solving and Troubleshooting, Project Management and Coordination, Security Awareness, Docu

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : In the dynamic and collaborative environment at CASHe, I have experienced a workplace culture that fosters innovation, teamwork, and continuous learning. The company provides a positive and inclusive working atmosphere which greatly contributes to professional growth and job satisfaction. The expectation from the company is not merely a set of tasks but a shared commitment to excellence and the pursuit of meaningful goals. The transparent communication channels and open-door policy have made it easy to collaborate with colleagues and leadership alike. This collaborative

spirit, coupled with a dedication to embracing emerging technologies, has created an inspiring atmosphere that encourages creativity and problem-solving.

Academic courses relevant to the project : DBMS, OOP, DSA.

Name: KOGILERU VEDANTH(2019B5A30801H)

Student Write-up

PS-II Project Title: Product management

Short Summary of work done during PS-II : To build and visualize and track entire funnel for addressing technical issues and bottlenecks is user journey.

Tool used (Development tools - H/w, S/w) : Python, SQL, Power BI

Objectives of the project : To build and visualize and track entire funnel for addressing technical issues and bottlenecks is user journey.

Major Learning Outcomes : Understanding the user onboarding journey exhaustively including the tech stack and external dependencies.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The product team is small and everyone has to take complete ownership of what they're working on. A lot of freedom is given in terms of what we would work on but equal amount of responsibility. Since the role is cross functional, I had to communicate with marketing, growth and the engineering team frequently.

Academic courses relevant to the project : BAV, C programming

PS-II Station : Central Electronics Engineering Research Institute , Pilani

Faculty

Name: Pawan Sharma

Student

Name: ANIMESH SINGH .(2020A8PS0819P)

Student Write-up

PS-II Project Title: Multipliers in FPGA

Short Summary of work done during PS-II : Learnt to operate FPGAs and how to connect it to our Personal Computer and adjust the connections using Verilog code and make block designs in Vivado Design Suite. Make source codes for the circuits in Vitis HLS(using C) and import it to Vivado to edit the block designs and make a bitstream file to process in Jupyter notebook and apply the connections made in Verilog to the Xilinx PYNQ Z-2 Board. Applied Hardware Acceleration algorithms like karatsuba algorithm and other variations of Karatsuba.

Tool used (Development tools - H/w, S/w) : Vivado, Vitis HLS, Verilog

Objectives of the project : Faster bit processing

Major Learning Outcomes : How to operate FPGAs and apply Hardware Acceleration algorithms

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Strict working timings from 9-6, face ID is utilised for daily attendance at the organisation. Surrounded by well experienced scientists, we can get help in any domain we want.

Academic courses relevant to the project : Digital Design, AnE

PS-II Station : Central Road Research Institute , New Delhi

Faculty

Name: Ankur Pachauri

Student

Name: MOHIT BANSAL(2018B3A20164P)

Student Write-up

PS-II Project Title: Integrated Transport Network Development Plan of Meghalaya

Short Summary of work done during PS-II : The first project that was given from the organization required to draw phase 3 roads or tracks on QGIS software to connect major district roads and national highways to habitated areas. Another project was given to analyze research papers on accessibility and connectivity in urban areas and other concepts which are helpful in the Meghalaya project.

Tool used (Development tools - H/w, S/w) : QGIS software, ms word

Objectives of the project : To digitalize the existing road network of Meghalaya and plan for building bituminous roads on tracks

Major Learning Outcomes : Learned about various geographies in Meghalaya and observing terrains in different districts to determine presence of habitations. Another project taught to review research papers which improved reading, comprehending and analytical skills.

Details of Papers/patents : Internship not involved research

Brief Description of working environment, expectations from the company : I visited CRRRI Campus in September. The working environment of the government organization was conducive to learning. The project colleagues had a common office for completing the project. The trainers assigned were similar age group as us and guided us well throughout the project. The company expected us to be diligent in our work and use our innovative minds for the betterment of road planning. They encouraged us by conducting problem discussions and teaching us how to complete the work.

Academic courses relevant to the project : Highway engineering, mathematics and statistical methods, pavement engineering

Name: HARSH AGRAWAL(2019B3A20542P)

Student Write-up

PS-II Project Title: Analysis of Entrance and Observation angles of traffic signs

Short Summary of work done during PS-II : The focus of this project was to conduct a comprehensive analysis of the entrance and observation angles of traffic signs on Indian roads, with the ultimate goal of improving traffic safety, particularly during nighttime on highways and expressways. The project involved the extraction and analysis of raw eye tracker data collected by the Central Road Research Institute (CRRRI) through extensive traffic surveys. The project primarily adopted a data analysis approach, beginning with the extraction of relevant information from the raw eye tracker data. The collected data was then processed to create a specialized MS Excel calculator. This calculator was designed to compute angles using the traffic survey data,

providing a systematic and efficient method for determining the entrance and observation angles of traffic signs. Analysis: The calculated angles were subjected to a thorough analysis, involving the creation of percentile and frequency distribution tables. These tables allowed for a nuanced understanding of the visibility of traffic signboards at night across different lanes of the road and for various types of vehicles. By examining the distribution of angles, the project aimed to identify patterns and potential areas of concern that could impact traffic safety. The significance of this project lies in its contribution to ensuring traffic safety, especially during nighttime travel on highways and expressways.

Tool used (Development tools - H/w, S/w) : MS Excel, Python programming and it's libraries- pandas, scikit learn

Objectives of the project : To analyze the entrance and observation angles of traffic signs on indian roads to ensure traffic safety at night

Major Learning Outcomes : I learned softwares like MS Excel and also programming languages like python including libraries like pandas, and scikit learn

Details of Papers/patents : .

Brief Description of working environment, expectations from the company : The working environment at CRRRI is good and peaceful. Initially you have to just read lots of research papers for your study as it is a research institute and after that you have to implement your knowledge into your project.

Academic courses relevant to the project : Statistics and basic programming

Name: ANUPAM SACHAN .(2020A3PS0360P)

Student Write-up

PS-II Project Title: Estimation of driver fatigue from driver pose

Short Summary of work done during PS-II : This project integrates computer vision techniques and deep learning methodologies to develop a robust driver fatigue detection system. Leveraging the OpenCV and TensorFlow libraries, the system performs real-time analysis of video input, identifying key body points through a pre-trained pose estimation model. The subsequent calculation of fatigue-related features enables the system to assess the driver's state of alertness by getting entropy of each frame in video.

Tool used (Development tools - H/w, S/w) : S/w - python, excel, OpenCV, Pandas, SciPy

Objectives of the project : 1. Developing a driver fatigue detection system 2. Accurate Pose Estimation 3. Calculation of Fatigue Feature 4. Entropy Classification judging fatigue status

Major Learning Outcomes : 1. Understanding and working with computer vision libraries, particularly OpenCV.
2. Image processing techniques for frame analysis.
3. Implementing pose estimation using a pre-trained deep neural network (DNN).
4. Understand and utilize the MobileNet arc

Details of Papers/patents : nil

Brief Description of working environment, expectations from the company : It was a great opportunity for me to work at CRRRI, and it is an awesome workplace with very good infrastructure and good exposure to the real-time road safety issues that affect people. It is a good place to learn as you will be supervised by top scientists in the country. My expectations are to make sure that everybody understands what they need to do and to provide a work environment in which I can contribute to the team

Academic courses relevant to the project : CS F425 – Deep Learning
CE G568 - Traffic Systems Analysis

PS-II Station : ChargePoint , Gurugram

Faculty

Name: Madhuri Bayya

Student

Name: AMAN BANSAL .(2019B1A41025P)

Student Write-up

PS-II Project Title: Develop Automated tool for tableau dashboards migration

Short Summary of work done during PS-II : I worked on developing the python utility which helps to switch the data connections. Then my work mostly included to migrate the dashboards using the utility and keep improving the utility.

Tool used (Development tools - H/w, S/w) : Tableau, Python

Objectives of the project : To develop an python based utility, which can be used to switch the tableau dashboards data connections.

Major Learning Outcomes : Learned to build on top of the python libraries.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is pretty chill. The intern was fully remote and there was flexibility in the working hours.

Academic courses relevant to the project : Computer Programming

Name: ABHISAR GAUTAM .(2020A3PS0524P)

Student Write-up

PS-II Project Title: Station Pin Accuracy & Address

Short Summary of work done during PS-II : The "Station Pin Accuracy" project focuses on elevating station location precision through a four-stage process. It employs Python for data preprocessing and Snowflake SQL queries for analysis. The initial stage builds a local model using Pandas, Snowflake Snowpark, and Scikit-learn, incorporating unsupervised learning with the DBSCAN algorithm. The transition to production in Stage 2 utilizes SQL queries with specific parameters, refining data for accurate station location estimation. Stage 3 employs a dual approach, estimating locations through algorithms and evaluating confidence with metrics such as the number of data points and Minimum Bounding Rectangle area. The final stage prioritizes actionable insights using a sorting index. The "Address Data Quality" report outlines a multi-stage SQL query and Python code process. It dissects and refines station addresses, incorporating a QWERTY keyboard-based clustering algorithm in Python. The code leverages DBSCAN for address clustering, identifies cluster leaders, and assigns refined addresses, significantly improving data quality and reducing errors. Both projects demonstrate robust methodologies, utilizing a combination of programming languages, algorithms, and custom metrics to enhance the accuracy and quality of station locations and addresses. The refined data contributes to improved user experiences, streamlined analyses, and increased project credibility.

Tool used (Development tools - H/w, S/w) : Python, Jupyter, Snowflake, Sql

Objectives of the project : Related to data analytics and data science

Major Learning Outcomes : Data science

Details of Papers/patents : No papers

Brief Description of working environment, expectations from the company : The work was remote and the people are friendly. Given you're showing progress daily there is no problem

Academic courses relevant to the project : DSA advised

PS-II Station : Cholamandalam Investment and Finance Company Ltd. ,
Chennai

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: SHAIKH ZAINAH RAHEMAN(2019B2A11078G)

Student Write-up

PS-II Project Title: Consumer Durables Loans - CSEL

Short Summary of work done during PS-II : Worked with BCG Consultants on Cholas Consumer Durables Loans business to develop strategies using analytics.

Tool used (Development tools - H/w, S/w) : Advanced Excel

Objectives of the project : Strategy development for upcoming business

Major Learning Outcomes : Analytical and strategic thinking from business perspective

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Good people

Academic courses relevant to the project : -

Name: AKSHAT KOTHARI .(2020ABPS1861P)

Student Write-up

PS-II Project Title: Risk Analysis and Migrant Product Growth

Short Summary of work done during PS-II : Analyzed high risk category portfolios to mitigate credit errors and losses. Made risk assessment models and frameworks for these loan categories. Designed SOPs, process flows, marketing strategies for product growth and expansion.

Tool used (Development tools - H/w, S/w) : Advanced Excel, Microsoft office

Objectives of the project : Evaluate major risk categories in different loan segments and default categories, and drive the product growth for the migrant product in Tamil Nadu Region

Major Learning Outcomes : Proficiency in Excel and data visualization tools like tableau, experience of leading product growth campaigns, collaboration with cross-functional teams and knowledge of research methodologies

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was great, helpful team members and proper training was provided before allocation of task.

Academic courses relevant to the project : None

PS-II Station : CityMall - Nontech , Gurugram

Faculty

Name: Mahesh K Hamirwasia

Student

Name: SHREYAS BAJIRAO(2020A2PS2434H)

Student Write-up

PS-II Project Title: 1.Reducing Misrouting of Orders 2.Products Damage Control 3.Ads & Monetisation

Short Summary of work done during PS-II : During my work in checking Misrouting I along with my mentor found the major cause of misrouting and it came down by 27% . While Damages Project my task was to bring down damages of groceries by applying different methods like packaging etc. while I was in ads dept I successfully created many dashboards for better visibility of data and ad spent was increased

Tool used (Development tools - H/w, S/w) : Python SQL Excel Clevertap Jupyter

Objectives of the project : 1.Reducing Misrouting of orders 2. Reducing Damages of Groceries 3. Increasing Ad spent and Revenue

Major Learning Outcomes : Business Analysis, Problem Solving

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The environment was quite chill and we enjoyed our work a lot . There was no major restrictions on in and out time. The colleagues were quite friendly. Having many Bitsians there our stint became more memorable

Academic courses relevant to the project : Python, SQL, Excel Some courses on Business communication, Operation Research

Name: VAIBHAV VERMA(2020A4PS2274H)

Student Write-up

PS-II Project Title: Marketplace Operations

Short Summary of work done during PS-II : We teamed up to make the logistics department run smoother and faster. We created a tool to track how delivery folks and warehouse workers were doing, and it helped them work 100% better during the busy holiday season! We also figured out how to scan things less in the warehouse and use tech to make things easier, which saved the company money on people. We analyzed all the costs of shipping stuff and helped bosses decide how much to charge for different products, which helped sales grow. We also built tools to track how sellers were doing and make sure orders got processed quickly, and we even negotiated better deals with shipping companies. All this teamwork helped us understand how logistics work better and make big changes that saved money and made things run smoother.

Tool used (Development tools - H/w, S/w) : SQL,Python,Airflow,Excel

Objectives of the project : Improving Supply Chain in order to meet Demands

Major Learning Outcomes : 1. Logistics processes

2. Warehouse Operations

3. Data Analysis

4. First Mile operations

Details of Papers/patents : no info

Brief Description of working environment, expectations from the company :

The work environment seems positive and collaborative, with colleagues readily offering help when needed. My manager specifically stood out for their exceptional support, fostering a true team spirit. However, work pressure can fluctuate due to the dynamic nature of the job. Excelling

in your role seems to be key to success, surrounded by brilliant colleagues. Importantly, the work culture varies depending on your team, and weekends typically involve mandatory work on Saturdays, with Sundays potentially required for some, particularly in operations. Overall, it appears to be a challenging yet rewarding environment populated by intelligent and supportive individuals, ideal for those seeking a fast-paced and growth-oriented career. Just be prepared for potential long hours and weekend work.

Academic courses relevant to the project : none

Name: Aashi Sharma(2020A5PS2577H)

Student Write-up

PS-II Project Title: Improvements to app conversion'

Short Summary of work done during PS-II : I worked in the category team and worked on 2 fronts - before midsems: I worked more on the customer side of things and dealt with presenting and interpreting data for the various experiments being run on the app. After midsemester: I worked on the inventory aspect of the team, this involved acquiring data from the databases, communication with vendors and automation of certain scripts to help smoothen out the functioning.

Tool used (Development tools - H/w, S/w) : Python, SQL, airflow, grafana

Objectives of the project : To increase the conversion of users to the app and to increase the conversion of users to lifestyle products

Major Learning Outcomes : Learnt the basics of supply chain, personalization of the app home page and the factors that affect it, and the handling of purchase orders and expiry

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The people were friendly and helpful, I got to learn a lot.

Academic courses relevant to the project : CS

PS-II Station : Cloud Files (Non IT) , Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: S ADARSH KUMAR REDDY(2019B1A41054P)

Student Write-up

PS-II Project Title: Navigating Through Business Development: A Comprehensive Practice School At Cloudfiles

Short Summary of work done during PS-II : Over the course of Practice School at CloudFiles, I gained valuable insights into CloudFiles' products and its business development processes. I was tasked with understanding the CloudFiles product, exploring SaaS business processes, and actively participating in the formulation of an ideal partner onboarding strategy. As part of this strategy, I was responsible for designing and developing a Partner Portal on the Salesforce platform, which would serve as a Partner Relationship Management (PRM) platform. In addition to this, I was encouraged to learn Salesforce and make CloudFiles' customer implementations as a Solution Engineer for CloudFiles.

Tool used (Development tools - H/w, S/w) : 1. Salesforce CRM (Major usage) 2.Hubspot
3.CloudFiles web app 4.Slack 5.Notion 6.Archbee

Objectives of the project : 1. Understand CloudFiles' products and its business development processes. 2. Designing and developing a Partner Portal on the Salesforce platform

Major Learning Outcomes : 1. Over the course of PS-II, got professional with Salesforce CRM. Earned a Salesforce Trailhead double-star Ranger rank and happen to administer Salesforce CRM.

2. With valuable salesforce skills and as CloudFiles' Solution Engineer, got to learn how cu

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Work Environment: As a BITSian led startup and majority of the employees being BITSians the work environment was one of the best I have experienced. Though its a very short team, got to work with some of the brightest minds and very friendly mentors. The founders are very encouraging and happen to be very inclusive.

Timings: 10AM - 6PM , Weekdays. Saturday and Sunday are holidays.

Office: Located in Harlur road, Ambalipura, Bangalore. It was a new office, equipped with eminities and can host around 25-30 people. As the team size was around 15, I felt the office to be good enough.

Work life balance: There was no specific leave policy as such. The company was open to taking leaves, work from home if needed. But it was on-site PS-II. There were monthly team lunches, parties and retreat trips as well.

Expectations from the company:

- Though it's 3 year old startup, the company is doing very good both in terms of business as well as technology and is part of Salesforce's startup programme.

-The founders are very encouraging and you get to learn a lot.

- Employment offers were also provided based on performance.

Academic courses relevant to the project : No specific courses as such if you happen to be on Business/Non-Tech project.

Name: SHOUNAK CHOWDHURY .(2020A5PS2031P)

Student Write-up

PS-II Project Title: Optimisation of SEO and Mastering Multichannel Outreach Strategies

Short Summary of work done during PS-II : In our project, we're making our website more visible in online searches and connecting better with people through social media and email. We're choosing the right words, learning as we go, and keeping an eye on the numbers to see how well it's working. Our goal is to be great at showing up in search results and reaching people online.

Tool used (Development tools - H/w, S/w) : Ubersuggest, Google Analytics

Objectives of the project : 1. Enhance Search Engine Visibility. 2.Keyword Research and Targeting. 3. Content Optimization. 4.Audience Segmentation 5. Analytics and Performance Measurement

Major Learning Outcomes : Advanced SEO Techniques, Multichannel Outreach Mastery, Content Optimization Skills, Social Media Engagement Expertise.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment was incredibly positive and collaborative. My co-workers were not only helpful but also consistently motivated me to give my best. They fostered a culture of continuous learning, sharing knowledge generously. This supportive atmosphere made the workplace not just professionally enriching but personally rewarding, contributing significantly to my growth.

Academic courses relevant to the project : Principles of Economics

PS-II Station : CloudFiles , Bengaluru

Faculty

Name: Venkata Krishna Sashank Dara

Student

Name: VISHESH GUPTA(2019B1A81134G)

Student Write-up

PS-II Project Title: Software Development at CloudFiles

Short Summary of work done during PS-II : Developed an Outlook add-in using React, NextsJS and Typescript

Tool used (Development tools - H/w, S/w) : Vscode, Outlook

Objectives of the project : Create an Outlook Add-in for CloudFiles

Major Learning Outcomes : React, Typescript, NextsJS

Details of Papers/patents : Basic information about Web Application Development

Brief Description of working environment, expectations from the company : Work environment was very good. Being a startup, they maintained every need of employees. They even took us to a trip. It was great culture there

Academic courses relevant to the project : None

PS-II Station : Continental Device India Pvt. Ltd. , Mohali

Faculty

Name: Sanjay Vidhyadharan

Student

Name: ISHITA VERMA(2019B4AA0194G)

Student Write-up

PS-II Project Title: Multiple On-site projects

Short Summary of work done during PS-II : The first project was about building an Air-Curtain Sensor Circuit using PIR Sensors, and the objective was to minimize the electric power consumed by air-curtains used in the manufacturing plant. The second project was an Equipment Maintenance Application, developed to ease maintenance task management and schedule generation. It was implemented by creating a MySQL database, Java backend with the Spring Framework, and React Frontend. It also involved setting up an automated email reminder system.

Tool used (Development tools - H/w, S/w) : Project 1: KiCad, Electrical hardware components, ICs, Arduino. Project 2: MySQL, Java with Spring Boot, React, VSCode, Python

Objectives of the project : The first project was about building an Air-Curtain Sensor Circuit using PIR Sensors, and the objective was to minimize the electric power consumed by air-curtains used in the manufacturing plant. The second project was an Equipment Maintenance Application, developed to ease maintenance task management and set up an automated email reminder system.

Major Learning Outcomes : Project 1: Circuit Design, Electrical and Electronic Components. Project 2: Web Development, Java, React, MySQL

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The mentors and seniors were extremely helpful and willing to teach. They provided valuable guidance and feedback. We were expected to timely update on our projects and progress made so far.

Academic courses relevant to the project : Project 1: Analog Electronics, Project 2: OOPs

Name: RAHUL HARIDAS(2020A3PS1037P)

Student Write-up

PS-II Project Title: Research on silicon carbide MOSFETs, Schottky diodes and IGBTs

Short Summary of work done during PS-II : The main objective was to study the working of Silicon Carbide MOSFETs, Schottky Diodes, and IGBTs inside-out. This included semiconductor physics, their working , assembly processes and commercial feasibility of the mentioned devices. This information was then relayed to the sales team, which created a strategy to approach the right clients for these devices. In the sales analysis project, I de-cluttered raw data from order invoices to distributors and integrated those with invoices from distributors to end customers to figure out the profit margin of the distributor and to sketch out a strategy to optimize customer value, while still maintaining volume-based sales incentives for distributors.

Tool used (Development tools - H/w, S/w) : LTSpice

Objectives of the project : To research the working of new devices being introduced by CDIL and to find their economic feasibility for the end customer.

Major Learning Outcomes : Finding how much work goes behind introducing a new device to the market; The sales analysis needed to formulate a sales strategy.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : I got to interact and work with the top management at CDIL. Their insights were valuable and even gave me an idea about business and marketing. As for my work, it was to research on cutting-edge silicon carbide devices that CDIL intended to package and sell to the EV and high-power market. Collaborating with the sales team, to figure out the right customers was also an end goal. The sales project was all about finding out valuable information from raw sales data, which would give CDIL a leverage while negotiating with distributors.

Academic courses relevant to the project : Electronic devices, Power electronics

Name: [SAMAYAM ARJIT\(2020A3PS1353H\)](#)

Student Write-up

PS-II Project Title: Procedure Training Content

Short Summary of work done during PS-II : This project is designed with a singular goal in mind: to provide individuals from various industries and backgrounds with a swift and comprehensive understanding of the fundamentals of semiconductors through engaging presentations and informative videos. From powering our smartphones and computers to driving advancements in healthcare, energy, and transportation, semiconductors are at the heart of innovation across many industries. I created videos on different processes in the semiconductor industry. As these tiny electronic components continue to play an increasingly pivotal role, everyone must grasp their fundamental principles and applications.

Tool used (Development tools - H/w, S/w) : Software tools - Google Slides, Canva, Audacity, Veed.io, Adobe Express, and Media.io

Objectives of the project : The project endeavors to empower individuals from diverse backgrounds with a profound understanding of semiconductors, unveiling the complexities that underpin our technological landscape.

Major Learning Outcomes : As semiconductors continue to play an increasingly important role in our lives, it is essential to understand the fundamentals of semiconductor manufacturing. This knowledge can help us to appreciate the complexity and sophistication of these tiny electro

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The semiconductor company provides a dynamic and collaborative working environment. Expectations: innovation, teamwork, and adaptability.

Academic courses relevant to the project : Electrical machines, Analog and digital VLSI

Name: ANURAG ANAND .(2020A3PS1789P)

Student Write-up

PS-II Project Title: Quality and High-Reliability System Documentation

Short Summary of work done during PS-II : The project, "Quality and High-Reliability System Documentation," include both technical and research-oriented aspects, focusing on the maintenance of electronic documentation detailing a system's design, architecture, components, and interfaces. Additionally, the project aims to develop a Workflow Order Portal for AEC-Q101 qualification standards testing.

Tool used (Development tools - H/w, S/w) : GOOGLE SHEETS/SITE CANVA/ADOBE
GOOGLE SITES DRAW.IO HTML AODOCS AUTOCAD

Objectives of the project : Objectives of the project: 1. Maintain high-quality documentation: Improve the organization, accuracy, and accessibility of technical documents outlining a system's design, architecture, components, and interfaces. 2. Streamline testing process: Develop a Workflow Order Portal to efficiently manage AEC-Q101 qualification standards testing, offering increased visibility, collaboration, and adherence to quality standards.

Major Learning Outcomes : Selecting & integrating DMS: Analyzed DMS options like AODOCS for semiconductor needs, integrated with Google Workspace.

Project collaboration & portal development: Structured information portals using Google Sites, incorporated search/filtering/export fu

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Company expectations:

Deliver high-quality technical documentation that adheres to specific standards and guidelines.

Design and implement an effective Workflow Order Portal for AEC-Q testing.

Collaborate effectively with team members and domain experts.

Maintain meticulous attention to detail and accuracy in all aspects of the project.

Communicate effectively both verbally and in writing.

Academic courses relevant to the project : Analog Electronics

Name: ABHINAV HARSHA ADYA .(2020A8PS1796P)

Student Write-up

PS-II Project Title: Multiple Projects on the Production Line

Short Summary of work done during PS-II : Arduino related projects; Website for automation; PCB and component sourcing; Video editing and voice over for training videos

Tool used (Development tools - H/w, S/w) : Arduino IDE, Wampserver, VS Code, Juno, TESEC testers,

Objectives of the project : Automation of various aspects of plant processes

Major Learning Outcomes : OSAT, ATMP, Arduino, Web Dev, Component Sourcing processes

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : A dust count controlled environment ATMP plant. You would be able to learn stuff during your PS-II timings as the work is generally easy. The expectations from the company are also not much. If you come here you will be met with a homely environment with many nice and genuinely helpful people. The only thing is that this firm would be good only if plan on continuing in the manufacturing sector. Else, please avoid.

Academic courses relevant to the project : NA

Name: GRANDHI VEERA VENKATA RAJENDRA(2020A8PS2219H)

Student Write-up

PS-II Project Title: AECQ Implementation in Discrete Semiconductor Testing

Short Summary of work done during PS-II : The project successfully implemented the Automotive Electronics Council's Quality Management System standard, AEC-Q100, within semiconductor testing to ensure the reliability and robustness of automotive electronic components. Key achievements include the development of specialized testing equipment and methodologies aligned with AEC-Q100 standards. The team established a comprehensive quality assurance framework throughout the semiconductor manufacturing process, incorporating traceability measures, documentation protocols, and continuous monitoring. Also, the documents

were transitioned into online mode using AODocs. Other tasks included making some Arduino based devices. Also, we made some relevant project flows and flowcharts for different devices.

Tool used (Development tools - H/w, S/w) : Various electronic device testing equipment, G - Suite, AODocs, draw.io, Arduino

Objectives of the project : This project centres on implementing the Automotive Electronics Council's Quality Management System standard, AEC-Q100, within semiconductor testing. As the automotive industry evolves with rapid technological advancements, ensuring the reliability and robustness of semiconductors is paramount. AEC-Q100 sets stringent guidelines and requirements for the qualification and testing of automotive electronic components, emphasizing the need for enhanced durability, temperature resilience, and overall performance. Key components of the project include developing specialized testing equipment and methodologies to meet AEC-Q100 standards. Additionally, the project aims to establish a robust quality assurance framework that guarantees adherence to the stringent requirements throughout the semiconductor manufacturing process. This involves implementing traceability measures, documentation protocols, and continuous monitoring to ensure the sustained reliability of semiconductors under harsh automotive operating conditions.

Major Learning Outcomes : 1) Gain in-depth knowledge and expertise in implementing the AEC-Q100 Quality Management System standard for semiconductor testing in the automotive industry. 2) Developed proficiency in designing and utilizing specialized testing equipment and methodology

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was good. The managers have high expectations from us though. Also, the working hours are fine (about 8.5 hours) but six days a week.

Academic courses relevant to the project : Electronic Devices

Name: ANANYA GAUTAM(2020AAPS2096H)

Student Write-up

PS-II Project Title: Building and Deploying of Parametric Search as CDIL website extension

Short Summary of work done during PS-II : The project focuses on creating a dynamic and user-friendly web application that enables users to perform advanced parametric searches efficiently. The frontend of the website is built using React, a widely adopted JavaScript library known for its flexibility and robustness in creating interactive user interfaces. React's component-based architecture facilitates the development of a responsive and intuitive user interface, ensuring an exceptional user experience. On the server side, Node.js and Express are employed to build a robust backend system. Node.js, with its non-blocking I/O and event-driven architecture, offers exceptional scalability and performance. Express, as a minimalistic and highly extensible framework, streamlines the development of RESTful APIs, ensuring efficient communication between the frontend and the backend. To manage and store data efficiently, a MariaDB database is integrated into the project. MariaDB's focus on performance, compatibility, security, and openness has contributed to its reputation as a robust and feature-rich open-source relational database management system (RDBMS). Furthermore, MariaDB was forked from MySQL and aims to maintain high compatibility with MySQL, allowing for easy migration from MySQL to MariaDB. It supports existing MySQL applications, tools, and libraries, making the transition relatively seamless for users. It was also the tool of choice because of its compatibility with the company's servers. The combination of React, Node.js, Express, and hosted MariaDB Database represents a state-of-the-art technology stack that offers optimal performance, scalability, and maintainability for this parametric search website project. This report delves into the architectural decisions, development methodologies, and key challenges encountered during the project's implementation. Additionally, it highlights the benefits of using a parametric search approach to enhance user experience and data retrieval efficiency.

Tool used (Development tools - H/w, S/w) : React, Nodejs, Express, Mariadb, Postgres, Google Cloud Platform, CloudSQL, VM instances, DB instances, MySQL

Objectives of the project : Build a website for enhanced user experience for CDIL clients

Major Learning Outcomes : React, Nodejs, Express, Mariadb, Postgres, Google Cloud Platform, CloudSQL, VM instances, DB instances, MySQL, Client Server Architecture, Software Development

Details of Papers/patents : Github Repository of the code - https://github.com/Boombag0607/cdil_parametric_search/

Brief Description of working environment, expectations from the company : Good

Academic courses relevant to the project : N/A

PS-II Station : Contlo - SDE (Tech) , Bengaluru

Faculty

Name: Arindam Roy

Student

Name: ROUNAK BHATIA(2020A8PS1807G)

Student Write-up

PS-II Project Title: NA

Short Summary of work done during PS-II : • Contributing as a full-stack developer using Python, PostgreSQL and Next.js to the open-source project "SuperAGI". • Integrated Local Large Language Models (LLMs) using llama.cpp, reducing OpenAI dependency, enhancing user data privacy, and lowering operational costs. • Implemented an error management system that transmits OpenAI errors from celery jobs to the backend via a Redis message broker before forwarding them to the frontend via Websockets. • Developed event-driven Webhooks with customizable filters for "SuperAGI," improving user engagement and personalization. • Developed

high-performance REST APIs using Python and FastAPI, implementing critical features such as Edit Agent, Save agent template, and Publish agent template to marketplace. • Developed the frontend of local LLMs, toolkits and some other features using Next.js.

Tool used (Development tools - H/w, S/w) : Python, Golang, Docker, FastAPI, PostgreSQL, Postman, React, Next.js, HTML, CSS, AWS S3

Objectives of the project : I didn't work on a single project, I was allotted tasks in sprints.

Major Learning Outcomes : NA

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good place to learn and fast paced work-environment.

Academic courses relevant to the project : OOPS, DBMS

PS-II Station : Controlytics AI , Hyderabad

Faculty

Name: Gopala Krishna Koneru

Student

Name: ANGAD SINGH KWATRA .(2020A3PS0505P)

Student Write-up

PS-II Project Title: Advancing Workplace Safety through Computer Vision And TransceiverTune: A User-Centric Desktop App for Wireless Transceiver Configuration

Short Summary of work done during PS-II : In the project, I spearheaded the development and integration of innovative solutions focused on workplace and industrial safety. I implemented a cutting-edge Human Detection Model utilizing the YOLO algorithm, enhancing real-time surveillance on a Raspberry Pi with an IP CCTV system. Concurrently, I designed a custom YOLOv4 model tailored for accurate valve state detection in industrial settings. This involved meticulous dataset creation and performance testing to ensure reliability. Additionally, I contributed to the creation of a user-friendly desktop application for configuring Wireless Transceivers, emphasizing real-time monitoring, customization, and security features. Throughout the process, I conducted rigorous testing, optimized models for real-world scenarios, and gained profound insights into computer vision technologies, hardware integration, and software development. The project not only demonstrated technical proficiency but also showcased a comprehensive understanding of safety applications, fostering a commitment to innovation and efficiency in the workplace.

Tool used (Development tools - H/w, S/w) : Raspberry Pi, IP CCTV camera, Python

Objectives of the project : Advancing Workplace Safety through Computer Vision And TransceiverTune: A User-Centric Desktop App for Wireless Transceiver Configuration

Major Learning Outcomes : The project facilitated significant learning outcomes, including proficiency in implementing computer vision technologies, specifically the YOLO algorithm and YOLOv4 model. I gained hands-on experience in hardware integration with Raspberry Pi, dataset cr

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Internship being remote, communication was via whatsapp group. My mentor was very helpful and the other interns as well. The company expects you to work with short deadlines, and do the work efficiently and well. Major focus on independent problem solving and solution creation.

Academic courses relevant to the project : Computer Networks , CP,

Name: SRIKAR KAMBALADINNE(2020A3PS2120H)

Student Write-up

PS-II Project Title: Serial Monitor Application, Object detection for safety in industries, Lora Configuration Tool

Short Summary of work done during PS-II : The first project i was assigned to was the serial monitor application which i completely developed using python ,pyQt5 , serial and various other libraries . It was made as to test the company products and other iot devices . The second project (object detection in industries) was assigned to me and my other ps-2 colleague where we developed/trained the yolov4 tiny object detection model on the custom dataset procured from the client for specific needs and implemented the algorithm on raspberry pi4 using an ip camera for the input source/video feed. The 3rd project (lora configuration tool) , I was assigned to build the website containing information about the lora module and also the tool which parses the commands of the lora moduel and gives it parameters and configuration to make it user readable . all three projects have been completed and delivered within the deadlines

Tool used (Development tools - H/w, S/w) : ESP 32 DOIT dev kit module , Raspberry pi 4 , python , openCV , javascript , yolov4, webpack

Objectives of the project : Serial Monitor application is a easy to use software which was built inorder to execute commands , get real time data from microcontrollers . It's usage primarily lies in testing/development of IOT device development, data analysis and management. The second project (object detection in industries) is a safety solution made using raspberry pi4 and YOLO object detection library inorder to indetify potential hazards in restricted chambers in factories to avoid accidents happening to employees and also to identify defective products in the production line . The 3rd project (LoRa configuration Tool) is a specific software built to understand and simplify communication through LoRaWan protocol . It helps the user to understand its parameters and the message it is sending inorder to debug/ communicate over extremely long ranges

Major Learning Outcomes : learning languages like python , javascript and their libraries

Error handling / debugging

Cross Platform development

Serial Communication protocols and methods

Data Management

Ui/UX

object detection fundamentals

DL algorithms like yolov4

Lora wireless tr

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was tough and challenging , I had the flexibility to work in hybrid mode. the company could not guide us at all and expected immediate results . The work /project given were tough but were enjoyable . We received hard critique for our work and improvements were to be made within a narrow period of time (within a day mostly) . The company's expectations were very high and the deadlines were very strict . It was incentivized to work overtime.

Academic courses relevant to the project : Digital Image Processing

Fundamentals of DSA

C programming

PS-II Station : Credit Suisse - Finance Change , Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: ANUSHKA SINGH(2019B3A40533H)

Student Write-up

PS-II Project Title: Data Quality Issue Management during integration with UBS

Short Summary of work done during PS-II : The project outlines my role in data quality issue management as a part of the Finance Change Team at Credit Suisse, particularly in view of its merger with UBS. The objective of this project was to ensure that the data integration process during the merger is executed smoothly and that data quality issues are promptly identified, assessed, and resolved.

Tool used (Development tools - H/w, S/w) : MS Excel, MS PPT, JIRA, ALM software

Objectives of the project : -Identify and document all open data quality issues in Credit Suisse systems. - Develop a classification framework based on UBS data quality issue standards. - Migrate and classify Credit Suisse data quality issues according to the UBS framework. - Implement corrective measures to address and resolve identified data quality issues.

Major Learning Outcomes : 1. Significance of Data Quality
2. Common Data Quality Issues
3. Challenges in Data Quality Management

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : NA

PS-II Station : Credit Suisse - Global Market Risk Management , Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: PADARTI BHANU TEJA .(2019B3A20418P)

Student Write-up

PS-II Project Title: VAR Analysis

Short Summary of work done during PS-II : Our Work is all about enhancing our market risk capture process. I specifically work in the Korean Desk looking into the Interest rate products which are traded in the Korean region. We use Stressed VaR and Regulatory Capital VaR to analyze regulatory capital requirements and Risk Management VaR for internal risk analysis. Validate and sign-off the risk numbers after analyzing them and notify traders, if there are any risk breaches. We monitor key metrics daily, ensuring accurate alignment of sensitivity movements with traded assets. We also adjust predefined flag limits based on market conditions, manage capital requirements under the Basel Framework, validate risk numbers, offer pre-trade approvals, and collaborate with traders on strategies for risk mitigation.

Tool used (Development tools - H/w, S/w) : Excel, MaRs(inhouse software), Python is a Plus.

Objectives of the project : To understand the factors affecting the payoffs of various Interest rate products.

Major Learning Outcomes : Understanding of various metrics of VaR and its movements according to the changes in interest rates and sensitivities like Delta and Gamma.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Team is very supportive and provides ample amount of time and resources to understand various traded assets.

Academic courses relevant to the project : DRM, FRAM, Fin E

Name: CHEKKA AKHIL SAI(2019B3A20570H)

Student Write-up

PS-II Project Title: Global Markets Risk Management Intern

Short Summary of work done during PS-II : Doing VAR analysis of the trade taken by the front office trading team and working along with them. Letting them know about the risk associated and whether they should close the position or hold it. Several BAU processes. Most of the work was in Excel. FRAM and DRM helped in the internship.

Tool used (Development tools - H/w, S/w) : EXCEL, Anaconda (python)

Objectives of the project : Real time application of whatever learnt in the courses, learn and adapt to new office culture and corporate culture.

Major Learning Outcomes : Getting to know how the corporate world works, VAR analysis, Excel, New financial instruments

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment was chill, everyone was supportive. It mainly depends on the team and team members. Apparently my team had very cool minded people and helpful persons.

Academic courses relevant to the project : DRM

FRAM

Name: CHEERLA VENKAT RAGHAVAN(2019B3A40553H)

Student Write-up

PS-II Project Title: Market Risk Management-Portfolio Management

Short Summary of work done during PS-II : I have been a part of the portfolio management team in which my role involves the oversight and management of the bank's financial portfolio to ensure it remains within acceptable risk parameters, complies with regulatory requirements, and aligns with the bank's overall business strategy. Assessing the risk profile of the bank's trading and investment portfolios, calculating metrics such as value-at-risk (VaR), stress testing, and scenario analysis to understand potential losses under adverse conditions, determining the optimal allocation of assets within the portfolio.

Tool used (Development tools - H/w, S/w) : Excel, PowerPoint

Objectives of the project : To validate daily risks at various levels of entity and books, conduct research on various queries related to risk at CS

Major Learning Outcomes : Got a lot of exposure in risk management in finance field

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Portfolio was a good team to work with regarding applicability and discussion of various tasks, a relaxed and fun environment with proper work-life balance

Academic courses relevant to the project : FRAM, DRM, SAPM

PS-II Station : Credit Suisse - Group Finance , Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: LAKSHYA JAIN .(2020ABPS1858P)

Student Write-up

PS-II Project Title: Automation for EAC

Short Summary of work done during PS-II : In this course, I was responsible for undertaking projects that were aimed at automation of BAUs of EAC (Expense Accounting and Control) Team at CS Pune. For completion of the projects I had to deal with Excel and I primarily used the R language. I used the JIRA platform for collaborating with various teams to complete the projects, apart from using regular channels of communication.

Tool used (Development tools - H/w, S/w) : MS Excel; R programming language; JIRA; Qlik Sense; Power Pivot Tools; Other internal software of CS

Objectives of the project : Automation of Business Activities and Development of Dashboards

Major Learning Outcomes : Learnt MS Excel and R programming language and used it for automating BAU's; Learnt Qlik Sense; Learnt JIRA and used it for tracking R codes and raising requests for deployment; Other intangible outcomes include teamwork and day to day conduct in a corpor

Details of Papers/patents : NA (Codes were developed and relevant documentation was done but the developed codes and documents are confidential and proprietary to CS)

Brief Description of working environment, expectations from the company : My team played an instrumental role in my learning curve throughout the course, and the working environment is excellent.

Academic courses relevant to the project : FundaFin, Computer Programming, Business Valuation

PS-II Station : Credit Suisse - Model Risk Management , Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: Yash Jajoo(2019B3A30405P)

Student Write-up

PS-II Project Title: Model Validation Using Python and Excel

Short Summary of work done during PS-II : Model risk management entails validation of models. This includes assessment of model design and ongoing monitoring among other things. Ample testing is performed on Python and Excel to ensure proper functioning of the model. A technical report is written to document the entire validation. This is presented in an internal committee.

Tool used (Development tools - H/w, S/w) : Python, MS Excel

Objectives of the project : To perform model validations for assigned models and reduce model risk.

Major Learning Outcomes : Major learning outcomes were understanding of the model risk management framework in large firms, along with software skills, team work and time management.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Credit Suisse has a very healthy working environment. Managers and teammates are very supportive and understanding. A hybrid working model is in place.

Academic courses relevant to the project : Econometric Methods, Financial Risk Analysis and Management

Name: SPARSH TEJWANI .(2019B3A30551P)

Student Write-up

PS-II Project Title: Model Risk Validator- IB stress testing intern

Short Summary of work done during PS-II : Validated Treasury and firmwide models.

Tool used (Development tools - H/w, S/w) : S/w :- R programming, Python, Excel, internal platforms.

Objectives of the project : Validate the models assigned concisely and accurately matching industry standards

Major Learning Outcomes : Business Sense, Model Risk- Assessment and Mitigation, Industry standards

Details of Papers/patents : CRE Loan Price Model, ACVA VAR Calculation

Brief Description of working environment, expectations from the company : Description :- collaborative, growth Oriented(personal and professional), excellence directed(interpersonal and technical) company culture.

Academic courses relevant to the project : FRAM, SAPM, Econometrics, DRM

PS-II Station : Credit Suisse - Non-Financial Risk Management , Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: DEVANG UMESH SHARMA(2020A1PS2119G)

Student Write-up

PS-II Project Title: NFRM, Product Advisory

Short Summary of work done during PS-II : I worked in Non Financial Risk Management specifically in the Product Advisory Team. 1. Monitored 100+ Issues as well as supported in remediation to ensure timely closure of the related actions on Bank wide applications 2. Generated Internal reports and KRIs for the Senior Management, regulatory reporting ensuring compliance and business up to date 3. Aiding 1st & 2nd Line of Defense with the Control Allocations, majorly Post-Upload Data Reconciliations and Integration process 4. Conducting UAT on products to monitor new developments, and providing input to the Development Team on any inadequacies 5. Assisting with Risk Control & Self-Assessment (RCSA), including coordinating and executing requirements per firmwide standards 6. Received Recognizing and Valuing Excellence (RAVE) Award in the first 2 months for demonstrating exemplary performance.

Tool used (Development tools - H/w, S/w) : Excel, Internal Tools (SCP, MICOS, MyInc, DRA)

Objectives of the project : Non Financial Risk Management in the Bank

Major Learning Outcomes : Internal Working of the bank especially pertaining to NFRM Department.

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : Work Culture was nice.

Had a great experience.

Complete Team was supporting.

Honed the technical skills with hands on experience in the internal tools.

Academic courses relevant to the project : FUFA, SAPM

Name: SHREYA SHARMA(2020A5PS2570H)

Student Write-up

PS-II Project Title: Data Governance

Short Summary of work done during PS-II : Examined the data quality of Loss Data in line with BCBS 239 standards, striving to achieve utmost accuracy and completeness. Supported the Risk Appetite and Capital team by ensuring accurate reporting of essential data fields, including capital and risk appetite numbers. Worked on automation related to internal and external losses, resulting in an optimized investigation of their causes and effects on the company.

Tool used (Development tools - H/w, S/w) : MS Excel, Tableau

Objectives of the project : Risk Management- Internal and External Risk

Major Learning Outcomes : Hands on experience with large datasets and company software.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work experience was good and the teams was very supportive in my learning experience.

Academic courses relevant to the project : FRAM

Name: DEEPANSHU GUPTA .(2020B4PS1276P)

Student Write-up

PS-II Project Title: NFR Assessment and Product Advisory Insights

Short Summary of work done during PS-II : The work in which I was involved with NFRM department in Credit Suisse was divided into 2 phases: 1. As a platform support specialist, I act as a main point of contact for customers who need help with a variety of change requests. Control Owner, Control Performer, Legal Entity, Applicable RCSA Unit of Measure, Control Tester, Control Gatekeeper, and other categories are all included in these requests. 2. I've been working closely with my senior colleagues on a project that aims to decommission one of the bank's current instruments. Our main goal was to smoothly incorporate the information obtained from this tool into a more sophisticated and effective system. We have established a weekly data upload procedure to accomplish this, moving important data from the outdated tool to the updated one.

Tool used (Development tools - H/w, S/w) : Excel, Google Slides, VBA, MICOS, SCP etc.

Objectives of the project : Effective Management of Non Financial Risks

Major Learning Outcomes : Within Credit Suisse, the Risk Control Self-Assessment (RCSA) process is a crucial framework for methodically assessing non-financial risks across a range of business divisions, corporate activities, and legal entities. It seeks to offer a thorough grasp

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : At Credit Suisse during my time what I saw was that they cultivate a dynamic and inclusive working environment where every team member's contribution is valued and celebrated. The company believe in fostering a healthy work-life balance and prioritize the well-being of their employees. the flexible work arrangements and supportive policies ensure that we have can effectively manage our responsibilities both at work and in our personal lives.

Academic courses relevant to the project : FUNDAFIN, Business Analysis and Valuation, SAPM, FINMAN, DRM, FRAM

PS-II Station : Credit Suisse - Product Control , Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: DARSHAN WALCHALE .(2019B3A30569P)

Student Write-up

PS-II Project Title: Product Control

Short Summary of work done during PS-II : Automations for various processes related to Product Control function. Taking responsibility for Month End tasks

Tool used (Development tools - H/w, S/w) : Python, Pandas, Numpy, Anaconda, Spyder, Excel, VBA

Objectives of the project : Product Control Function at Credit Suisse, Fixed Income Derivatives Valuations

Major Learning Outcomes : Usage of Python and Pandas for automation, Introduction into the world of Product Control Function in Finance. Processes and internal functions of how Banks fairly value their positions and manage risk and reserve requirements.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Credit Suisse has a great working environment and excellent company culture. Co-workers and managers are open supportive.

Academic courses relevant to the project : Financial Risk Analysis and Management. Derivatives and Risk Management

PS-II Station : Credit Suisse - Quantitative Analysis & Technology , Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: OHRI NIKHIL RAJESH(2019B2A10746G)

Student Write-up

PS-II Project Title: Automation for Market Risk Calculation

Short Summary of work done during PS-II : The work was mainly around coding on R and learning different operational task's (BAU). My manager was genuinely very good and encouraged a lot of self growth for me as well besides completing the daily BoW.

Tool used (Development tools - H/w, S/w) : R programming, In house risk softwares

Objectives of the project : Reduce operational time for capital computation of Market Risk (different RT's) using R programming.

Major Learning Outcomes : R programming, Basel 2.5 and Basel 3 guidelines for Market Risk Capital Computations

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The working environment at Credit Suisse is characterized by a dynamic and fast-paced atmosphere. Employees engage in collaborative efforts across diverse teams, fostering innovation and professional growth. The organization emphasizes a commitment to integrity, client focus, and excellence in financial services. Open communication channels and a supportive culture contribute to a positive workplace, while the pursuit of excellence is evident in the rigorous standards upheld. Credit Suisse encourages a balance between work and personal life, prioritizing employee well-being. Overall, the environment reflects a dedication to delivering high-quality financial solutions while nurturing a culture of inclusivity and continuous development.

Academic courses relevant to the project : None as such (Basics of DRM), FRAM is you can do it but the company is going to train you from level 0 anyways

Name: MUKUNDAN P S(2019B3A40349H)

Student Write-up

PS-II Project Title: Counterparty Credit Risk(CCR) Calibration and Monitoring

Short Summary of work done during PS-II : Large banks have their internal strategies for investing, which is kept in check by regulators using an IMM(Internal Methods Model) waiver. If the banks change the equations and assumptions for their strategies, they have to observe the impacts and as a regulatory requirement report them to the regulators to retain the waiver. The two main deliverables were Impact Analysis - was done whenever there were changes in the stressed windows and Effectiveness Test - calculating EEPE for different portfolios pertaining to 4 major regulators FINMA, PRA_CSI, PRA_CSSEL, BoS. My work included to report these deliverables every quarter and automate the process wherever possible. The team was also working on a tool to retire Impact Analysis and I helped them in making the tool as well.

Tool used (Development tools - H/w, S/w) : Excel, internal software(excel add-in), Python

Objectives of the project : Impact Analysis and Effectiveness Test

Major Learning Outcomes : Statistical analysis, Python, Finance - Counterparty Credit Risk

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The expectation were to deliver the work on time and the deadlines were well spaced to complete the work with accuracy. They were flexible to WFH policies, but personally i enjoyed going to the office daily. I was very lucky to get a great mentor who provided adequate guidance whenever i faced any difficulties. Overall a very healthy environment.

Academic courses relevant to the project : FRAM, DRM

Name: RAJDEEP KAMAT(2019B3A40719H)

Student Write-up

PS-II Project Title: Market Risk Modelling

Short Summary of work done during PS-II : My area of work in risk modelling team for market risk wherein I had to prepare platform for carrying out quarterly actions using python, perform automation tasks with python, and manage existing calculation libraries and codebases through C#.

Tool used (Development tools - H/w, S/w) : Python, C#, LaTeX

Objectives of the project : Prepare platform for quarterly actions and automation using python and management of calculation libraries

Major Learning Outcomes : Coding in Python, C#, LaTeX;
Gained knowledge on Market Risk Methodologies

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : Flexible working hours, flexible work from home policy

Academic courses relevant to the project : FRAM, DRM, Prob Stats, Applied Econometrics

Name: BHANDARI SANYAM PRAVEEN(2020AAPS0317G)

Student Write-up

PS-II Project Title: Quant analysis

Short Summary of work done during PS-II : Used to test and prepare relevant documentation and test cases for existing models for var calculations of equities

Tool used (Development tools - H/w, S/w) : Pycharm megatron matador

Objectives of the project : Market risk management and backtesting

Major Learning Outcomes : Quantitative research and test case preparation for existing models

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Good working environment with flexible working hours and a welcoming and helpful team

Academic courses relevant to the project : None

Name: RAJESHWARI CHAUHAN .(2020B3PS1272P)

Student Write-up

PS-II Project Title: Index Creation for Distressed Credit

Short Summary of work done during PS-II : My work consists of construction EMCI Index on the distressed asset class based on price return index level and 1D return. The aim was to know the risk level in various bonds to figure out their risk-return matrix. I have been doing this on excel, C# as well as on Python. Using, so many tools gives me precision in construction of the index. The commentaries are part of the reports sent to the CRO and other teams mainly the clusters or trading desks I also assist in making weekly risk reports which are again sent to the CRO on a weekly basis. My work involves a thorough understanding of different financial instruments, movements in markets, option greeks and metrics such as VaR and IRC.

Tool used (Development tools - H/w, S/w) : Python, Excel ,C#, CS internal Softwares

Objectives of the project : 1. Index Construction for Distressed class of EMCI 2. VAR analysis of the whole portfolio

Major Learning Outcomes : 1.Acquired proficiency in the strategic filtration of distressed credit within a diverse portfolio of bonds, gaining insights into the nuanced process of identifying and isolating assets facing financial challenges.

2.Pioneered the meticulous constructio

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : My internship experience at Credit Suisse was great. The company's commitment to fostering a positive and collaborative environment became evident through its emphasis on open communication, mutual support, and shared goals. The flexibility in work hours not only facilitated a healthy work-life balance but also underscored the organization's acknowledgment of individual needs and preferences. The ongoing merger and acquisition activities at Credit Suisse showcased the company's dynamism and commitment to growth, providing me with a unique opportunity to witness and contribute to the intricate processes of corporate evolution. The immersive experience not only deepened my understanding of corporate life and its challenges but also allowed me to forge connections with colleagues from diverse backgrounds, gaining valuable insights into their roles and responsibilities. Overall, my internship at Credit Suisse was an enriching journey that exposed me to the multifaceted facets of the corporate world, leaving me with a taste for the intricacies and rewards of professional life.

Academic courses relevant to the project : FinMan, SAPM, BAV, Econometrics

PS-II Station : Credit Suisse - Risk & Finance Data Analytics, Reporting , Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: SAKSHI SINGH(2020A1PS1980H)

Student Write-up

PS-II Project Title: RISK CALCULATION & ANALYSIS USING VAR COMPONENTS

Short Summary of work done during PS-II : The Group and LE's daily reporting process entails calculating and studying VaR and other risk measures and preparing daily monthly, quarterly, and annual reports. The reports for the parent and the group entity go through internal reviews before being reviewed by the risk manager, who determines the reporting threshold. After receiving signoffs from risk managers, these reports are circulated and distributed to stakeholders. Any errors or mismatches must be reported and investigated, and any sudden business changes must be addressed to ensure the bank's proper operation.

Tool used (Development tools - H/w, S/w) : VBA, Excel

Objectives of the project : The project focuses on and articulates the risk calculation, analysis, and reporting practices followed by Credit Suisse. It additionally emphasizes VaR calculation and its application in day-to-day risk analysis for a bank over a given time horizon.

Major Learning Outcomes : Over the last 5 months, I've had several interactions with IT regarding report trigger issues, book locking, and flex errors. Working on multiple reports has taught me how to handle trigger errors and script problems.

I've also worked with MRMs to unders

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The people working in Risk Analysis team were warm and motivating. During multiple reporting with deadlines, the workload was shared amongst everyone so as to reduce the burden on one single person. Over all since multiple reports related to different legal entities were required to be shared on a daily basis, effective team work was important to analyze changes and give suggestions.

Academic courses relevant to the project : FRAM, BAV, SAPM, FOFA, FM

PS-II Station : Credit Suisse - Risk & Finance Data Analytics, Reporting , Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: HIMANSHU SINGH(2019B2A80938G)

Student Write-up

PS-II Project Title: Credit Risk Management

Short Summary of work done during PS-II : Validating impact and exposure on a weekly and monthly basis, This involves reviewing and verifying the impact and exposure of trades on the bank's credit portfolio. • Move analysis for the move in Notional, Impact, Exposure, this involves analyzing changes in notional, impact, and exposure to identify any unexpected trends or patterns. • Root cause analysis from unexpected moves in trade: This involves investigating and identifying the root cause of unexpected moves in trade exposure. • Supporting CRM and analyzing queries raised by them on a day-to-day basis.

Tool used (Development tools - H/w, S/w) : Excel, Sql, VBA, Python

Objectives of the project : The role entails overseeing and verifying credit risk exposure calculations across various business lines, with a primary focus on ETFO and OTC Derivatives. The primary responsibilities of an analyst involve monitoring trading books for any unusual activity, especially regarding Current Exposure, and conducting in-depth investigations to determine the authenticity of such movements and their implications. These analyses are then presented in the form of daily, quarterly, and bi-annual reports, which are utilized by Credit Risk

Managers to establish exposure limits for different clients. In addition to these routine reports, the team also engages in stress testing credit scenarios for various trades and metrics, primarily for internal reporting purposes.

Major Learning Outcomes : learned a great deal about financial products across various asset classes and credit line types, as well as the complete scenarios process and life cycle of trade from a counterparty perspective. I have also received comprehensive compliance practices an

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Good working environment with well defined goals and expectations. Working hours can be long on a few days depending on submissions and queries received. Basic training and dummy working to be taken care of by the buddy allotted

Academic courses relevant to the project : Derivative and Risk Management

Name: [ASTITVA AGNIHOTRI.\(2019B3A40522P\)](#)

Student Write-up

PS-II Project Title: RFDAR

Short Summary of work done during PS-II : reporting and managing credit risk is an extensive task. For an organization of the size of Credit Suisse commencing business in every corner of the world, managing risk requires a systematic process. My role in the team is preparing weekly and monthly reports for Credit Suisse branches in different countries (Legal Entities) and reports that measure variations in products that are reported on a weekly basis to identify any significant variations in the values. Some reports that I prepare for legal entities Mumbai, China, Seoul, Tokyo, and some others

Tool used (Development tools - H/w, S/w) : Excel, Macros, Python, Pandas, R, PowerBI

Objectives of the project : Credit Risk Analytics IB - Impairment

Major Learning Outcomes : Understanding of Credit Risk Methodology, PD, LGD, & EAD Modelling, Automation using Python

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The practice school at Credit Suisse gave me a chance to interact with a large bandwidth of businesses across the bank and bank's senior management. I have learnt quite a few things from the work and team members which include but are not limited to how the company is structured, different divisions of the company, different types of risk, various regulatory reports, BAU & APAC activities and Scope for automation. Overall, the practice school has provided me with a unique platform for personal and professional growth in a dynamic and exciting department and also to understand Risk & Finance Data Analytics, Reporting and the culture of the company.

Academic courses relevant to the project : DRM, FRAM, SAPM

Name: VISHISHTHA JAIN(2020A1PS1551H)

Student Write-up

PS-II Project Title: Risk and Finance Data Analytics and Reporting

Short Summary of work done during PS-II : I was a part of the OTC FINMA Exposure Move Analysis team. My work included performing data checks and analysing moves in exposure (EAD) for counterparties under the FINMA regulator (OTC products) - large exposure reporting. To determine if the exposure moves are genuine or if there's any underlying issue, the data is thoroughly checked. Data quality issues, if discovered, are fixed using analytical tools and techniques. The results are communicated to the respective stakeholders once the analysis is done (LER reporting is done on a weekly and monthly basis).

Tool used (Development tools - H/w, S/w) : MS Excel, VBA Macros, Python, SQL dbx, other Internal software

Objectives of the project : To perform data checks and analyse exposure (EAD) moves for the OTC products under the FINMA regulator - Large exposure reporting, on an weekly and monthly basis.

Major Learning Outcomes : Learned new concepts and calculation methodologies that are part of the validation process. Enhanced my communication abilities as my role necessitated interacting with various stakeholders on a regular basis. Acquired technical and analytical abilities

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work environment was exceptionally pleasant, providing a conducive atmosphere to enhance my productivity and well-being. My supervisors were cooperative, patient, and supportive, which helped me acquire work-specific work etiquette.

Academic courses relevant to the project : DRM, FRAM

Name: SHREY OJHA .(2020A1PS1714P)

Student Write-up

PS-II Project Title: “The Work Experience of a Credit Risk Analyst Intern in the SFT-IHC Team, Credit Suisse”

Short Summary of work done during PS-II : the role of a Credit Risk Analysis Intern in the SFT-IHC team, which works under the Chief Risk Officer (CRO) in the Data Quality Assurance and Management (DQAM) division, is to perform Exposure Move Analysis (EMA). But before the work

begins, the intern goes through a training process which helps to make the understanding better and the work efficient. During the training phase, key terminologies and methods are introduced that are used further in the work. Financial Exposure, Calculation of Exposure-at-Default and its parameters, Eligibility and Liquidity of Collateral and other useful terms are studied by the intern to have a more thorough understanding of the EMA procedure. The work majorly involves performing Exposure Move Analysis (EMA) for the SFT-Capital products, that fall under the FRB (Federal Reserve Board) regulatory umbrella. In the work, the first thing to be done is to prepare the scope for the analysis. This is done via STAR OBIEEE and the EMAX WF platforms. Then the data is extracted from the INSIGHT Database using SQL Queries. The data collected is then analysed on Microsoft Excel and validated, to check whether the exposure moves are genuine, or they have some underlying issues. After the analysis is done, the role of the intern comes to tabulating and reporting the exposure moves to the BMR (Basel Measurement and Reporting) Dept. This is done on a daily, monthly, and quarterly basis.

Tool used (Development tools - H/w, S/w) : MS Excel, EMAX, MERCURY

Objectives of the project : Daily, Monthly and Quarterly Analysis of Counterparty Credit Risk under the IHC Regulator, FRB (Federal Reserve Bank)

Major Learning Outcomes : Learnt new financial concepts and calculations involved in the validation procedure:

Developed technical skills required for the role and the initiatives taken:

Gained industry exposure and insights pertaining to corporate work and ethics:

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Credit Suisse provides a collaborative and dynamic environment for Credit Risk Analysts, emphasizing analytical excellence, proactive risk management, and adherence to regulatory standards. The company values innovation, continuous learning, and effective communication, fostering a culture where employees contribute to the development and implementation of robust credit risk management strategies.

Academic courses relevant to the project : NA

Name: AARYAN BAHUGUNE .(2020A8PS0572P)

Student Write-up

PS-II Project Title: Data Quality Assessment And Monitoring

Short Summary of work done during PS-II : For the initial 2 months I was working closely with the Switzerland and Singapore teams in remediating Control Exceptions raised on a monthly basis. Along with that I also created various Excel Templates which cut the processing time by 50%. In the last 3 months I was majorly working on the DQAM Process. This involved Deciding the scope of applications using various Data Analysis Techniques and working closely with stakeholders of the application to improve Data Quality by 60%.

Tool used (Development tools - H/w, S/w) : Microsoft Excel, Microsoft Powerpoint, Collibra, MARCS, Honeycomb

Objectives of the project : The main objective of the project was to complete DQAM of 5 Applications in Q3 23 from the mandate given Group CDO.

Major Learning Outcomes : Learnt about how Data is managed in such a big organisation and what measures are taken to ensure that the data that is being used has high quality and a lot of governance around it. This ensures accuracy of results produced for which the data is being us

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The working environment was absolutely top-notch. They were extremely flexible with working hours, Extremely easy hybrid working system and colleagues are extremely helpful. This company gives you the freedom to put out your views to anyone- be it the director or Managing Director. There is a reason that this company is known to have one of the best work-cultures in the market and I got to see that.

Academic courses relevant to the project : Fundafin, DRM, SAPM, BAV, Finman, FRAM (Very Important)

Name: NIHARIKA PAPPU(2020AAPS1322H)

Student Write-up

PS-II Project Title: RAFDAR

Short Summary of work done during PS-II : .

Tool used (Development tools - H/w, S/w) : SQL, Company specific tools

Objectives of the project : Counterparty Credit Risk

Major Learning Outcomes : Counterparty Credit Risk for OTC Derivatives

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : .

Academic courses relevant to the project : DRM, FRAM, SAPM

PS-II Station : Credit Suisse - Trade Analysis Team , Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: ARNAV BHATARA(2019B4AA1304H)

Student Write-up

PS-II Project Title: Investment Banking

Short Summary of work done during PS-II : In my role as an Investment Banking intern at Idrive-Capital, my primary responsibility has been to evaluate startups incubated at the top Indian incubators and accelerator. For any promising company, we reach out to the founders and try to secure the mandate for the fundraising process for that company.

Tool used (Development tools - H/w, S/w) : Google and Microsoft Suite

Objectives of the project : Evaluating Indian Startups ; Networking with VC's; Networking with Founders

Major Learning Outcomes : Evaluating Indian startups looking to raise money till pre Series B rounds.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Hybrid working model, with teammates working out of Delhi, Bangalore and Chennai. Flexible working hours with work submissions operating on strict deadlines.

Academic courses relevant to the project : BAV , FM, POE

Name: RITVIK RAO ALLENI(2020AAPS2116G)

Student Write-up

PS-II Project Title: Trade Analysis Intern

Short Summary of work done during PS-II : This role will no longer come since it doesn't exist in UBS, but it was a risk reporting role and you basically had repetitive work with very less variation and scope for innovation. Very monotonous work but apparently that's how the entirety of finance industry functions at least in the initial stages. Only good thing about this role was we had to deal with people in front offices in Zurich and New York so you can improve your communication skills and also I could convert it into wfh mid internship.

Tool used (Development tools - H/w, S/w) : Excel and various Credit Suisse in house tools which you will be trained on

Objectives of the project : Solving PTAs, Reviewing NCBs, Weekly Market Reports

Major Learning Outcomes : Different types of risks associated with different trades, Review of NCBs etc

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Chill working environment, everyone is quite helpful in the initial stages. Don't expect variety in work allotted.

Academic courses relevant to the project : DRM

PS-II Station : Cropin Technology Solutions , Bengaluru

Faculty

Name: SRINATH NAIDU

Student

Name: TUSHAR KUMAR SINGH(2020A7PS0975G)

Student Write-up

PS-II Project Title: Image Annotation Pipeline

Short Summary of work done during PS-II : Constructed an image annotation pipeline which employs automation and semi-automation strategies to label images. The pipeline integrates with images stored in AWS S3 and metadata stored in PostgreSQL database. Used the annotation pipeline for creating models for crop stage identification, disease detection. Trained a YOLO v8 model on a custom dataset and integrate it with the existing pipeline. Used CNN model for crop identification. Developed a model for counting corn kernels in a corn ear. Formulated the above approach in backend using Flask

Tool used (Development tools - H/w, S/w) : Python, Pandas, AWS s3, AWS ec2, PostgreSQL, Docker, CVAT

Objectives of the project : To construct an image annotation pipeline which employs automation and semi-automation strategies to label images. The pipeline integrates with images stored in AWS S3 and metadata stored in PostgreSQL database

Major Learning Outcomes : After I was done with all these projects I had a very good understanding of geostationary data, operations, remote sensing , etc. Also I learned a lot in the field of computer vision and model training, pipelines, etc. Apart from the technical aspect this

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : In a supportive, collaborative environment, I experienced a culture valuing teamwork and innovation. The

company fostered an atmosphere where mentorship and open communication flourished, empowering me to explore and contribute. Expectations centered on proactive engagement, creative problem-solving, and a dedication to continuous learning. There was a strong emphasis on delivering quality work while encouraging personal growth. The company's commitment to a balanced work-life dynamic further enriched the experience, allowing me to thrive and contribute effectively to the team's success.

Academic courses relevant to the project : DSA, OOP, DBMS

Name: SHASHWAT JAIN(2020A7PS1702G)

Student Write-up

PS-II Project Title: International Crop Monitoring

Short Summary of work done during PS-II : I started working on the crop detection models. During my internship I also

Tool used (Development tools - H/w, S/w) : QGIS, Github, AWS S3, EC2, Jupyter Notebook

Objectives of the project : Working on improving existing pipeline and crop detection models along with clustering algorithms and crop cycle detection in a NDVI timeseries

Major Learning Outcomes : Deep Learning, Managing data pipeline , Statistical Analysis

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Approachable and helpful mentors, a professional working environment which can foster growth. Flexible Work hours and remote working.

Academic courses relevant to the project : Machine Learning, Deep Learning .

Name: SANGHANI DEVARSHI JINESHBHAI(2020A7PS2041H)

Student Write-up

PS-II Project Title: International Crop Monitoring

Short Summary of work done during PS-II : Had to work on implementing the company code base, and research paper surveys related to crop identification.

Tool used (Development tools - H/w, S/w) : Python, AWS, Numpy Pandalas

Objectives of the project : Make machine models, clean training data and improve the codebase

Major Learning Outcomes : Data Science, Data Analytics

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Normal working environment, and company expectations also met.

Academic courses relevant to the project : Machine Learning, Artificial Intelligence

PS-II Station : CSEP Research Foundation , New Delhi

Faculty

Name: Swapna S Kulkarni

Student

Name: SHARMA SHIVAANEE NAVIN(2020A4PS2592H)

Student Write-up

PS-II Project Title: Cost Analysis of Power procurement and Electricity power consumption of DISCOMs in Karnataka

Short Summary of work done during PS-II : ith creative thinking and initiative.

Tool used (Development tools - H/w, S/w) : Power Bi, Data analysis on Ms. Excel

Objectives of the project : Cost Analysis of Power procurement and Electricity power consumption of DISCOMs in Karnataka

Major Learning Outcomes :

1. Learned about energy systems, renewables, and data analysis
2. Understand energy policy landscape, understanding stakeholders and future trends
3. Analyzed data, tackled challenges, and adapted with creative thinking and initiative.

Details of Papers/patents : Will be given for publishing next year

Brief Description of working environment, expectations from the company : The colleagues were friendly to answer my queries

Academic courses relevant to the project : EEE F111, finance minor

PS-II Station : Dailybee , Hyderabad

Faculty

Name: K Venkatasubramanian

Student

Name: SUDIREDDY KOUSHIK REDDY(2020A8PS0725H)

Student Write-up

PS-II Project Title: Digitize Inventory with OCR + GPT

Short Summary of work done during PS-II : During my tenure at DailyBee, I played a pivotal role in enhancing the Sales App's backend using technologies like Express.js. I implemented robust features, including user authentication with automatic account deactivation for security. I led the development of the Danipay website backend, focusing on user authentication and security measures. Additionally, I contributed to the creation of the Inventory Digitization Engine (IDE) and the Sales Admin Dashboard, where I navigated through tasks like user account creation, fund workflows, and IAMRoles system implementation. The collaborative and supportive environment of DailyBee facilitated my significant skill acquisition and practical learning, marking a transformative internship journey.

Tool used (Development tools - H/w, S/w) : Nodejs,mongodb,postgres,Retool,javascript

Objectives of the project : ONDC aims to liberalize e-commerce, ensure fair competition, and create a transparent, inclusive digital marketplace for economic growth

Major Learning Outcomes : Learnt Nestjs framework and javascript

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : DailyBee fosters a collaborative and supportive work culture where team members exemplify exceptional support, troubleshooting assistance, and guidance. The company's collective ethos is marked by friendliness and a proactive approach to problem-solving. The team's commitment to mutual support not only cultivates a positive work environment but also accelerates individual and collective growth. DailyBee's emphasis on camaraderie and effective guidance creates a workplace where each member feels valued, contributing to a harmonious and productive professional atmosphere.

Academic courses relevant to the project : Na

Name: SAMALA HRISHIKESH GOUD(2020AAPS0366H)

Student Write-up

PS-II Project Title: ONDC NP TOOLING & DIGITIZING INVENTORY WITH OCR+GPT

Short Summary of work done during PS-II : I played a pivotal role in architecting, developing, and optimizing the IDE(Inventory Digitization Engine), emphasizing seamless data flow and efficiency. The work included addressing functional loopholes, ensuring comprehensive data coverage, and developing user-friendly interfaces. I also developed the Sales Admin Dashboard which involved leveraging Express.js, HTML, CSS, Bootstrap and MongoDB as Database for effective sales management, culminating in a dynamic and user-friendly interface. I gained hands-on experience in PDF label printing scripts and MongoDB data integration scripts.

Tool used (Development tools - H/w, S/w) : Express.js, Node.js, MongoDB, HTML, CSS, Bootstrap.

Objectives of the project : The objective was to streamline and enhance inventory management processes through the development of the Inventory Digitization Engine (IDE). This six-stage product scraping cycle aimed to convert raw barcode data into e-commerce-ready listings.

Simultaneously, the creation of the Sales Admin Dashboard sought to empower Sales Leads with comprehensive oversight of sales personnel and associated stores, utilizing web application development techniques.

Major Learning Outcomes : JavaScript, Express.js, Node.js, MongoDB, HTML, CSS, Bootstrap.

Details of Papers/patents : N.A

Brief Description of working environment, expectations from the company : The working environment during my internship was incredibly positive. I had the privilege of being mentored by Mr. Satya Avasarala, the co-founder of the company. His guidance was invaluable, creating a pressure-free atmosphere where learning and growth were prioritized. Rather than a traditional boss, Mr. Satya was more of a friendly guide, fostering a collaborative and supportive environment throughout the duration of the internship.

Academic courses relevant to the project : N.A

PS-II Station : DBOI - Accounting Domain , Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: VALLABH PARMANI.(2020A2PS1402P)

Student Write-up

PS-II Project Title: Accounting Domain

Short Summary of work done during PS-II : Deutsche Bank , a leading global financial institution , operates in over 60 countries , serving millions of clients with a legacy spanning 150 years Assisted Functional Lead, achieving a improvement in handling tasks and ad-hoc requests , contributing to smooth functioning Implemented and managed a detailed training tracker for over , ensuring thorough pre-go-live readiness , and enhancing the process Ensured a seamless SAP S4 HANA transition for , optimizing organizational operations with enhanced efficiency and functionalities

Tool used (Development tools - H/w, S/w) : Excel, Quest(Internal DBOI Tool), Powerpoint

Objectives of the project : Transition from SAP S3 to S4 HANA

Major Learning Outcomes : Excel, Communication skill

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Company had a very good working environment, everyone were willing to help and many people working their gave the company had a very good work-life balanced compared to other banks operating under the same genre, though i didn't get a role in which i could be of much help as it was a large project in which i had a very small roles and people theri were all above 10 years experience

Academic courses relevant to the project : DRM, SAPM

PS-II Station : DBOI - Business Finance , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: UTKAL SINGH(2019B4A40410G)

Student Write-up

PS-II Project Title: Finance

Short Summary of work done during PS-II : Role of Analyst. Excel skills improvement. Improved knowledge of financial debt products.

Tool used (Development tools - H/w, S/w) : Excel, in-house bank softwares

Objectives of the project : Financial analysis of banks trades

Major Learning Outcomes : Excel skills improvement

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : Friendly environment. Not too much workload. 2 days work from home allowed.

Academic courses relevant to the project : FUFA

DRM

Fin Man

BAAV

SAPM

Name: RUCHIT TARUN AGRAWAL(2020A4PS1838G)

Student Write-up

PS-II Project Title: Accounting at US Repo

Short Summary of work done during PS-II : My role was to perform the Cost of Carry process. Once that was done, I worked on creating the daily PnL and the daily Balance Sheet. My work also included working on various reconciliations as part of checks performed to ensure all financial systems are in sync.

Tool used (Development tools - H/w, S/w) : Excel, dbPalace, Kannon, Calico

Objectives of the project : Perform Carry process, Make daily PnL and Balance Sheet

Major Learning Outcomes : Learnt the functioning of Repo trades in the Money Market

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work culture is positive and the team is very supportive and helpful.

Academic courses relevant to the project : NA

PS-II Station : DBOI - Global Reporting , Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: SIMRIDHI GAIND .(2019B1A40935P)

Student Write-up

PS-II Project Title: Global Reporting

Short Summary of work done during PS-II : During my internship I had the opportunity to contribute to streamlining and enriching our reporting processes. I focused on accuracy first, delivering over 20 monthly reports for global stakeholders with a high success rate. This not only improved data accessibility but also efficiency allowing for faster and more informed decision-making. I actively analyzed Flash and Forecast information, generating actionable insights and commentary that proved valuable during Performance Review Meets. Recognized potential inconsistencies in data interpretation across teams, I took the initiative to bridge communication gaps. By collaborating with various stakeholders, I helped establish consistent reporting practices, ensuring everyone was working with the same information and moving towards shared goals. Overall, my internship experience allowed me to develop valuable skills in data analysis, accuracy, and effective communication

Tool used (Development tools - H/w, S/w) : Excel, Powerpoint, SQL, Tableau, DB only tools

Objectives of the project : Making reporting practice effective, concise and accurate

Major Learning Outcomes : Streamlined 20+ monthly reports for global stakeholders with 95% accuracy, boosting efficiency by 20% and driving improved data accessibility.

Analyzed Flash and Forecast data to deliver actionable insights and commentary assisting in Performance Review M

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The job is decent enough, the teammates are very helpful. Have to follow London timings and Manila timings, sometimes both in one day. Report Handover/Takeover process is very good and effective. We get to talk to a lot of big stakeholders. Expectation are high as you will be surrounded by CAs/MBAs. But nothing that cant be learnt over the time.

Academic courses relevant to the project : Fundamentals of Accounting, Security Analysis and Portfolio Management, Business analysis and valuation, Financial Management.

PS-II Station : DBOI - IB CFO , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: KHUSHI KHANNA(2019B4A10850H)

Student Write-up

PS-II Project Title: IB CFO-FRM

Short Summary of work done during PS-II : During my internship at Deutsche Bank's IB-CFO Financial Resources Management Team, I delved into crucial facets of financial resource allocation. I acquired a comprehensive understanding of pivotal financial components: Leverage, Total Capital Demand, and IFRS Assets and Liabilities, which are vital for assessing stability. The internship enriched my skill set significantly. Proficiency in Excel functions empowered efficient data analysis and reporting. I was engaged in the long-term planning for the next five years, aiming to protect the bank's performance by referring to historical data, growth from desks, FX impacts & adhering to Basel norms, and taking all relevant factors into account. Working with the Assumptions Database honed my ability to derive insights, create pivot tables, and conduct variance calculations, aiding detailed business and desk-wise analyses. Additionally, GGL usage for data retrieval and understanding Countermeasures' role in evaluating desk stability broadened my comprehension of strategic decision-making in a financial context. Daily responsibilities included data analysis, report generation, and managing critical databases like the Assumptions Database and Incremental Risk Charge file. The internship amplified my financial acumen, fostering hands-on expertise and a holistic understanding of financial mechanisms within a global banking institution.

Tool used (Development tools - H/w, S/w) : Excel, Tableau

Objectives of the project : I was engaged in the long-term planning for the next five years, aiming to protect the bank's performance by referring to historical data, growth from desks, FX impacts & adhering to Basel norms, and taking all relevant factors into account.

Major Learning Outcomes : -

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : FRAM, SAPM, BAV

PS-II Station : DBOI - MRM , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: ROHAN SANKLECHA(2020A1PS2457H)

Student Write-up

PS-II Project Title: Market Data Analysis

Short Summary of work done during PS-II : Make daily reports which contains data for VaR calculation.

Tool used (Development tools - H/w, S/w) : Excel, Python

Objectives of the project : to calculate VaR for the bank on daily basis

Major Learning Outcomes : Team Player, Accuracy, Timeliness

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : good atmosphere, great team and helpful in nature.

Academic courses relevant to the project : FRAM

Name: [DANDWATE CHAITANYA CHARUDATTA\(2020A1PS2488H\)](#)

Student Write-up

PS-II Project Title: MRAC Credit

Short Summary of work done during PS-II : Daily BAU tasks and automation

Tool used (Development tools - H/w, S/w) : Python, Tableau, Excel

Objectives of the project : Streamlining process reporting and BAU

Major Learning Outcomes : Learned about Investment Banking and various types of risk associated with it and learned about Exotics

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment is free and supports learning.

Academic courses relevant to the project : FRAM, DRM

Name: SAI ARAVIND INKOLLU(2020A4PS2308H)

Student Write-up

PS-II Project Title: RNIV of TURNS

Short Summary of work done during PS-II : The RNIV and RNISV of the TURNS Risk should be calculated every quarter and should be submitted. A new methodology was proposed and the research is done on the TURNS and the risk arising from TURNS Risk. After the methodology is finalised the automation of the RNIV and RNISV is done using python pandas.

Tool used (Development tools - H/w, S/w) : Python, SQL and Advanced Excel

Objectives of the project : To devise a methodology for RNIV calculation of Turns and automate the same

Major Learning Outcomes : Python, Advanced Excel and adhering to the strict deadlines.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment at Deutsche Bank is great. People were very friendly and very supportive. The open and inclusive atmosphere at Deutsche Bank provided me with a unique platform to interact with seasoned professionals and industry leaders. The emphasis on knowledge sharing and mentorship was evident throughout my internship, with colleagues readily offering guidance and support. This collaborative spirit not only facilitated my learning but also created a sense of camaraderie that made every day enjoyable. Deutsche Bank's global presence provided

exposure to a diverse and multicultural work environment, fostering an appreciation for different perspectives and approaches. The emphasis on ethical practices and corporate responsibility underscored the bank's commitment to making a positive impact on both the financial industry and the communities it serves.

Academic courses relevant to the project : FRAM, DRM

PS-II Station : DBOI - MVRM-Valuation Control team , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: CHAKRADHAR REDDY NARAPAREDDY(2019B3A30520H)

Student Write-up

PS-II Project Title: Independent Price Verification

Short Summary of work done during PS-II : I was asked to perform IPV for repo collaterals and loans throughout the month. This involved me testing prices for deals from various sources (for example, Bloomberg) and other teams. We had to check to see if there were any variance breaches, and if yes, escalate them according to specific guidelines. My work also included making the final PPTs with the tested prices for various teams and sending them out promptly for their reporting purposes. I have also learned the workings of multiple macros that help optimize the testing process and have seen how efficiency has increased due to them, which has expanded my understanding of VBA. I now have greater knowledge of the functioning and the working of the Financial Industry. Due to the highly sensitive nature of the Data I used to be able to access, I also extensively learned about various Risk and Compliance strategies and requirements within the Firm and the absolute necessity for them to both be followed and propagated within our BAU.

Tool used (Development tools - H/w, S/w) : Microsoft Excel, Bloomberg

Objectives of the project : To learn about how IPV is used to enhance the accuracy, reliability, and transparency of the valuation process in financial institutions

Major Learning Outcomes : Financial Technicals as in how IPV is important, Networking, Time management.

Details of Papers/patents : IPV

Brief Description of working environment, expectations from the company : It was very friendly. All of my colleagues were very helpful and were there to help me whenever required. We did not have a strict office hours schedule so it was very flexible. WFH policy was great and again flexible which made it easier for us to our month out.

Academic courses relevant to the project : DRM, FOFA, FRAM

Name: [ARYAN KUHAD\(2020A1PS1977G\)](#)

Student Write-up

PS-II Project Title: Valuation Control - IPV

Short Summary of work done during PS-II : Work was mainly to perform IPV for trades taken in the FX space by DB traders, and ensuring outliers of variances are reported to ensure efficient risk management

Tool used (Development tools - H/w, S/w) : Excel, Macros, SQL

Objectives of the project : To perform IPV for global FX team

Major Learning Outcomes : Excel, Reporting, VBA, Macros

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Amazing culture, good learning environment and welcoming people all around (Mumbai and London)

Academic courses relevant to the project : Finance Minor courses

Name: MYDEO ROHIT PRASAD(2020A4PS1841G)

Student Write-up

PS-II Project Title: Weekly IPV

Short Summary of work done during PS-II : I assisted the team in regular BAU tasks.

Tool used (Development tools - H/w, S/w) : MS Excel

Objectives of the project : To understand Business as usual at the station

Major Learning Outcomes : Understood the work culture in a multinational investment bank

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment is cooperative and friendly. The company expected us to be available when they need help in office hours.

Academic courses relevant to the project : Derivatives and Risk Management

PS-II Station : DBOI , Bengaluru

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: HARSH RANJAN(2020A1PS1185G)

Student Write-up

PS-II Project Title: CASH OPS PAYMENTS INVESTIGATION

Short Summary of work done during PS-II : Perform an in depth data analysis of the payment investigation databases and suggest solutions to reduce incoming queries and query resolution time.

Tool used (Development tools - H/w, S/w) : Excel, PPT

Objectives of the project : Data analysis of investigation cases.

Major Learning Outcomes : Current trends in the cash operations space in banking.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Work environment at DB is very encouraging and involving. Apart from that team members are really great and supportive. Office space is amazing and provides an overall healthy work-life balance.

Academic courses relevant to the project : FINANCE MINOR

PS-II Station :

Faculty

Name:

Student

Name: SAMARTH SINGH PARIHAR(2020A2PS2424H)

Student Write-up

PS-II Project Title: Settlement Instructions

Short Summary of work done during PS-II : Over the course of our internship We have been working with the Settlements Team. The business unit that we addressed was FIC Security settlements, primarily dealing with settlements of Cash and repo trades of APAC region. We have been dealing with Client accounts of two categories based on the accessibility of their Standard settlement Instructions (SSI): Alert accounts and Non-alert accounts. When we talk about settlements, clients may use multiple SSI and it can be everchanging. So there is a need of transforming the process of storing these client SSIs when they are so dynamic in nature. To bring the change into this process a BOT (robotic process automation) has been implemented which updates the SSI of clients into their internal platform automated. But even though this BOT is in use the efficiency of this BOT is still questionable and our project is to enhance the efficiency of the BOT and deal with the exceptions which come up. Additionally we also conduct an analysis of the dirty Straight through processing of trades. These trade breaks are essential to analyze to get to understand the root cause and then resolve them.

Tool used (Development tools - H/w, S/w) : Excel, VBA, DTCC Alert, DB Trader, SQL, Sharepoint, Tableau

Objectives of the project : The main goal of our project is to enhance efficiency of the BOT which is processing settlement of trades into Dbtrader. We aspire to minimize the Dirty STP transactions, as they mandate trade rebooking despite prior processing by the BOT. We aim to

eliminate 'Dirty STPs' - trades requiring manual intervention. With the implementation of this BOT, our objective is to optimize trade settlements across the key markets of Europe, the United Kingdom, and the United States.

Major Learning Outcomes : By performing Independent Analysis of trade breaks and Dirty STP remediation, I have been able to proficiently assess and validate the accuracy and efficiency of BOT, ensuring compliance with regulatory standards and risk management principles in the cont

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : DBOI - Bangalore offers extremely supportive and nurturing environment. We had a lot of flexibility offered to us. Projects were allotted on a random basis which brings out the best in each student. All our colleagues were kind and always ready to help us.

Academic courses relevant to the project : Derivatives and Risk Management, Financial Management

PS-II Station : Delightful Gourmet Pvt Ltd (Licious) , Bengaluru

Faculty

Name: Ankur Pachauri

Student

Name: DIBYANSU DIPTIMAN(2019B1A41472H)

Student Write-up

PS-II Project Title: Unlocking & Maximizing Customer Retention

Short Summary of work done during PS-II : Our project has focused on the crucial metric of customer retention, seeking to transform one-time buyers into loyal, repeat customers while safeguarding against competition. We've delved into the intricacies of customer behavior, analyzing transactional patterns, value perception, and brand loyalty. Our goal is to generate precise insights and actionable strategies to enhance customer retention and conversion rates. Key metrics such as month-wise retention, rolling days analysis, and user segmentation have played a pivotal role in this endeavor. Our project holds the potential to significantly improve customer retention and drive revenue growth for Licious in its niche food category. Through an in-depth understanding of customer behavior, advanced analytical tools, and the integration of Power BI, we are poised to continue fostering success in Licious' unique corner of the food industry.

Tool used (Development tools - H/w, S/w) : Python, SQL, Excel, QlikView, Jupyter Notebooks

Objectives of the project : Analyze customer behavior from the following perspectives: Transactional behavior, Value for money perception, Affinity towards a specific brand

Major Learning Outcomes : Consumer Behaviour Understanding

Brand Growth and Strategies

Basics of Business Analytics

Advanced/Intermediate Python + Excel

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Licious prides itself on cultivating a positive and collaborative work culture where team members demonstrate a high level of cooperation. The company places importance on employees having a fundamental understanding of SQL and Python, offering assistance and resources for skill development. Colleagues are readily available and willing to provide support when faced with challenges, fostering a sense of teamwork and camaraderie. Furthermore, Licious actively promotes a culture of ownership, empowering employees to take responsibility for their tasks and contribute to the overall success of the team. This emphasis on individual accountability not only enhances the work environment but also encourages a proactive and self-driven approach to professional growth within the organization.

Academic courses relevant to the project : DBMS courses, Data Analytics

Name: AVINAB NEOGY(2020A4PS1625G)

Student Write-up

PS-II Project Title: Demand Planning Forecast for Licious and Perfect Orders Dashboard

Short Summary of work done during PS-II : My one project was on demand forecasting which helped me understand that raw data is not clean and some multiple variable forecasting methods. The second project involved the assessment of a perfect order meticulously, focusing on both pre-order and post-order experiences for all placed orders. Metrics include app/shopping experience factors such as express availability, coupon and payment issues, and head SKU presence. Delivery-related metrics cover SLA breaches, shelf life, rescheduling, partial or split orders, cancellations, and various veto issues. Availability metrics analyze unique product impressions within specific timeframes, emphasizing timely delivery and product categories. Express availability metrics evaluate the percentage of product impressions for speedy delivery options, concentrating on intentionally designed KMLs.

Tool used (Development tools - H/w, S/w) : SQL,Python,Jupyter,Qlik SENSE,Tableau

Objectives of the project : To Plan a Demand Planning Forecast for Licious

Major Learning Outcomes : Forecasting methods using multiple variables

Details of Papers/patents : No Papers were published of this

Brief Description of working environment, expectations from the company : The work atmosphere at Licious proved to be exceptionally positive, with a team that exemplified a collaborative and supportive ethos. Every member of my team demonstrated a willingness to

assist and provided valuable support throughout my journey. What stood out was the culture of constructive feedback, a practice that greatly contributed to my professional growth. At various junctures, I received insightful input that proved instrumental in refining my skills and approaches. The team's commitment to mutual support fostered a sense of camaraderie and cohesion, making the work environment not only pleasant but conducive to individual and collective success. The culture of feedback, in particular, played a pivotal role in fostering an environment where learning and improvement were actively encouraged, creating a workplace that prioritized both personal and professional development.

Academic courses relevant to the project : ECON F244. ECONOMIC OF GROWTH & DEV
MGTS F211. PRINCIPLES OF MANAGEMENT

Name: ROHIDA VARUN AMARLAL(2020A4PS2236H)

Student Write-up

PS-II Project Title: Developing a category management framework for licious.

Short Summary of work done during PS-II : I worked on developing a category management for licious. Apart from this I worked mainly on different analysis for licious' loyalty program INFINITI. I also published dashboards both on google sheets and qlikssense. I also worked on building a yield dashboard which was going to be consumed by the manufacturing team on a daily basis. This dashboard would attribute the loss of yield to various levels in the loss tree.

Tool used (Development tools - H/w, S/w) : Python, SQL, Excel, Qlikssense, Tableau, PowerBI.

Objectives of the project : To developed a category management framework for licious.

Major Learning Outcomes : Market and Consumer Analysis Skills, Technology Integration for Optimization, Project Planning and Execution, User Preference Analysis, Adaptability to Market Trends, Brand Excellence and Customer-Centric Growth.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is very good. You will be treated the same as a permanent employee. The nature of work will be the same as the every other team member. You will be expected to take ownership of the work. Interaction with other teams is highly appreciated and motivated. The team is quite helpful and will help you in understanding the database and tables. You will get to work on a variety of things which is very good for business understanding.

Academic courses relevant to the project : Machine Learning. Fundamentals of financial accounting.

PS-II Station : Dell Technologies , Bengaluru

Faculty

Name: Chetana Anoop Gavankar g

Student

Name: ARYAN KAPOOR.(2020A7PS1689P)

Student Write-up

PS-II Project Title: Autonomous BI for client/server licenses

Short Summary of work done during PS-II : Created an automation pipeline to generate license forecasts for the client and subsequently display the results on a ThoughtSpot dashboard.

Tool used (Development tools - H/w, S/w) : Jupyter, ThoughtSpot

Objectives of the project : Create an end to end, autonomous machine learning pipeline to generate forecasts.

Major Learning Outcomes : 1. Understanding of Supply Chain Industry
2. Developing Business Intelligence dashboard
3. Generating automation pipelines

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : While the work at Dell did seem somewhat redundant from time to time, the work culture in my division was probably the best of the lot amongst all the corporate internships I have taken up during my 4 years at BITS.

Academic courses relevant to the project : Supply Chain Management, Data Science

PS-II Station : Dezerv Investments Pvt. Ltd , Mumbai

Faculty

Name: T Venkateswara Rao

Student

Name: VENKATA NAGA SAI BHARATH THATHA(2020A4PS1904G)

Student Write-up

PS-II Project Title: Interactive Website Overhaul: Transformative Front-End Development with Enhanced User Experience

Short Summary of work done during PS-II : During my six-month internship, I focused on front-end web development, contributing significantly to the enhancement of user interfaces. I undertook diverse tasks, such as creating new pages, revamping outdated designs, and implementing improved user flows. My responsibilities extended to ensuring high code quality, emphasizing clean and efficient programming practices. A pivotal aspect of my role involved crafting reusable components, fostering modularity and scalability in the codebase. This experience honed my skills in both design and development, as I navigated the complexities of modern web applications. I actively participated in the transformation of user experiences, blending creativity with technical proficiency. Collaborating with cross-functional teams, I contributed to the synergy between design and functionality, ultimately elevating the overall quality of the web applications. Through this internship, I cultivated a holistic understanding of front-end development, embracing the challenges of modernizing interfaces and delivering impactful solutions.

Tool used (Development tools - H/w, S/w) : HTML, CSS, JS, react.js, Gatsby,next.js

Objectives of the project : To apply front-end web development skills for innovative design, improved user interfaces, and code efficiency

Major Learning Outcomes : 1. Mastered HTML and CSS for structured and visually appealing web pages.

2. Acquired expertise in React.js for dynamic and efficient UI development.

3. Implemented Gatsby and Next.js for high-performance static and dynamic websites.

4. Proficient in Git

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Dezerv offers an exceptional work environment, fostering a perfect work-life balance and a supportive community of individuals dedicated to my success. The team's unwavering commitment to excellence, led by a great manager, has been instrumental in my professional growth. The company's encouraging atmosphere has significantly contributed to my positive learning outcomes, providing ample opportunities for skill development. Overall, Dezerv's commitment to

employee well-being, supportive colleagues, managerial excellence, and growth prospects has created a conducive environment for personal and professional advancement.

Academic courses relevant to the project : N/A

Name: CHAITANYA BALANI .(2020ABPS1846P)

Student Write-up

PS-II Project Title: Ci CD pipeline for AWS services , folio checker APIs and dashboards

Short Summary of work done during PS-II : Really good exposure and supporting mentors and goal oriented projects with proper logic and usability

Tool used (Development tools - H/w, S/w) : Vs code , mongo compass , github

Objectives of the project : Backend frontend

Major Learning Outcomes : Learnt golang , done 2 months devops , 3 months backend and made 2 frontend dashboards using react and chakra ui

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : Really good working culture and friendly colleagues and gave time to learn and gave good context before hand , company expect you to provide after learning

Academic courses relevant to the project : Oops , dsa

PS-II Station : Diagonal slash Technologies , Bengaluru

Faculty

Name: Akshaya G

Student

Name: ABHIJEET KAR(2020A3PS0520G)

Student Write-up

PS-II Project Title: AUTOMATION OF DEVELOPMENT, TESTING AND APPLICATION DEPLOYMENT.

Short Summary of work done during PS-II : Project Goal was to first manually test the website features and then automate the testing cases using eclipse-selenium.

Tool used (Development tools - H/w, S/w) : Django & Eclipse

Objectives of the project : AUTOMATION OF DEVELOPMENT, TESTING AND APPLICATION DEPLOYMENT

Major Learning Outcomes : Web Development with Django (Python) with RESTful API Development. Automation Testing using tools like Eclipse(JAVA).

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Engaging tasks and projects that align with the my skills and career goals along with access to experienced mentors who provided guidance and support. We got exposure to new technologies, tools, and methodologies relevant to the industry.

Academic courses relevant to the project : Computer programming

Name: AAKASH GUPTA(2020A3PS1096G)

Student Write-up

PS-II Project Title: AUTOMATION OF DEVELOPMENT, TESTING AND APPLICATION DEPLOYMENT

Short Summary of work done during PS-II : Project Goal was to first manually test the website features and then automate the testing cases using eclipse-selenium.

Tool used (Development tools - H/w, S/w) : Django,Eclipse, Postman

Objectives of the project : AUTOMATION OF DEVELOPMENT, TESTING AND APPLICATION DEPLOYMENT

Major Learning Outcomes : Java SDK, Python , Selenium , Postman , Web Development with Django (Python) with RESTful API Development. Automation Testing using tools like Eclipse(JAVA).

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : Exciting tasks and projects that align with the my skills and career goals along with access to experienced mentors who provided guidance and support. We got exposure to new technologies, tools, and methodologies relevant to the industry.

Academic courses relevant to the project : CP

PS-II Station : DigiCert Security India Pvt Ltd , Bengaluru

Faculty

Name: Nishit Narang

Student

Name: YUGAL JOSHI .(2020A7PS0002P)

Student Write-up

PS-II Project Title: JIRA Connector integration

Short Summary of work done during PS-II : This project aimed at enhancing operational efficiency by seamlessly integrating the Software Trust Manager with Jira, a widely-used project management and issue tracking tool. The initial phase involved the creation of a dedicated Jira project for testing, establishing a sandbox environment, and identifying critical API calls for effective communication between systems. The implementation of various workflows addressed key areas: Threat Detection and Vulnerability Management: Automated workflows for threat detection and vulnerability identification, enabling the prompt creation of Jira tickets for incident response and remediation.. Policy Change Notifications and Account Settings: Established workflows for generating tickets related to policy change notifications, particularly those involving account settings, ensuring compliance and security. The final phase introduced several features to facilitate a seamless interaction between Software Trust Manager and Jira: Create a New Jira Story: Implemented functionality to create new Jira stories directly from the Software Trust Manager interface. List and Update Jira Stories: Developed features to retrieve a list of Jira tickets associated with a specific user and project, and provided detailed updates on Jira stories. Real-time Monitoring and Collaboration: Implemented the ability to retrieve the current status of existing Jira stories, add comments directly within a Jira story, and close or delete Jira stories as needed. Overall, the project significantly improved collaboration, traceability, and incident management within the organization's workflow.

Tool used (Development tools - H/w, S/w) : IntelliJ, Postman, Docker, Kubernetes

Objectives of the project : Building a jira connector for the company by which the client can directly create Jira tickets automatically from the Company's Integrations itself.

Major Learning Outcomes : hands-on experience of JAVA-SpringBoot, creating API's, JOOQ etc.

Details of Papers/patents : NILL

Brief Description of working environment, expectations from the company : During my internship at DigiCert, I experienced a dynamic and collaborative working environment that fostered both professional growth and innovation. The company's culture emphasized teamwork, encouraging open communication and idea exchange among colleagues. The office space was conducive to productivity, featuring modern facilities and a supportive atmosphere.

Expectations from the company were clear and aligned with a commitment to excellence. I was encouraged to take ownership of tasks, showcasing initiative and creativity. The emphasis on continuous learning allowed me to engage in challenging projects, providing valuable hands-on experience. Regular feedback sessions and mentorship programs demonstrated the company's dedication to the development of its interns. Overall, the company's inclusive and forward-thinking approach created a positive atmosphere where I could contribute meaningfully to projects while honing my skills in a professional setting.

Academic courses relevant to the project : OOPS(very Important),

Name: RISHI RAKESH SHRIVASTAVA .(2020A7PS0108P)

Student Write-up

PS-II Project Title: Cms integration

Short Summary of work done during PS-II : Created a cms integration pipeline using headless architecture for central platform and integrate it to other platform as well

Tool used (Development tools - H/w, S/w) : JavaScript, postman, vue.js , html, css, JavaScript

Objectives of the project : Cms for cert central platform

Major Learning Outcomes : Software development and design

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : Very good and flexible. People were supporting and helpful.

Academic courses relevant to the project : Dsa, oops, os

Name: RISHEET AGARWAL MEHTA .(2020A7PS1201P)

Student Write-up

PS-II Project Title: QA Automation

Short Summary of work done during PS-II : Worked as a full time employee to solve various java tickets

Tool used (Development tools - H/w, S/w) : Cypress

Objectives of the project : Automation

Major Learning Outcomes : JavaScript, Cypress, Shell script

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Supportive and Understanding

Academic courses relevant to the project : None

Name: [DHRUV GUPTA .\(2020A7PS1680P\)](#)

Student Write-up

PS-II Project Title: Sbom signing using In-toto framework and Golang and JSON Signature Format Proof of Concept

Short Summary of work done during PS-II : successfully implemented a robust Software Bill of Materials (SBOM) signing solution using the In-toto framework, Golang, and JSON Signature Format. The primary objective was to enhance software supply chain security by ensuring the integrity and authenticity of software components throughout their lifecycle. Leveraging the efficiency and simplicity of Golang, we developed a streamlined process for SBOM signing, focusing on automation and ease of integration within existing software development workflows. The In-toto framework played a pivotal role in establishing a secure and standardized approach to software supply chain security. By adhering to In-toto specifications, our implementation ensures the verifiability and tamper-evidence of the signed SBOMs. The core of our solution lies in the utilization of cryptographic techniques to generate JSON Signature Format for the signed SBOMs. This format serves as a secure representation of the software inventory, enabling robust verification mechanisms. The Proof of Concept (PoC) created for this endeavor successfully demonstrates the feasibility and effectiveness of our SBOM signing approach in a real-world software supply chain context. By adopting this solution, organizations can significantly mitigate the risks associated with supply chain attacks, bolstering trust and transparency in the deployment of software components. Our work contributes to the advancement of secure software development practices, aligning with industry efforts to fortify the integrity of the global software supply chain.

Tool used (Development tools - H/w, S/w) : Git, Github, Golang, VS Code, Digicert DCONE

Objectives of the project : Sbom signing using In-toto framework and Golang and JSON Signature Format implementation and Proof of Concept creation

Major Learning Outcomes : Asymmetric cryptography, Golang, In-toto framework and Cobra cmd

Details of Papers/patents : NIL

Brief Description of working environment, expectations from the company : DigiCert's work environment is characterized by innovation, collaboration, and a commitment to excellence in digital security. I look forward to contributing to a dynamic workplace that values both individual expertise and collective teamwork. I anticipate engaging with passionate professionals dedicated to staying at the forefront of technological advancements.

From the company, I expect a supportive and inclusive culture that prioritizes work-life balance and employee well-being. DigiCert's reputation for delivering cutting-edge cybersecurity solutions aligns with my desire to work in an environment that values continuous learning and professional growth.

I am excited about the opportunities for skill development and career advancement that DigiCert offers, recognizing the company's investment in its employees' success. Being part of a company that plays a crucial role in securing the digital landscape is both inspiring and motivating.

In summary, I am eager to contribute to DigiCert's success and be part of a team that fosters innovation and excellence in the ever-evolving field of digital security.

Academic courses relevant to the project : Cryptography

PS-II Station : Distributed Energy , Pune

Faculty

Name: Vijayalakshmi Anand

Student

Name: STEPHEN WILSON EZHEKKADAN .(2020ABPS1835P)

Student Write-up

PS-II Project Title: Geo-Mapping for Lead generation and mass email customisation

Short Summary of work done during PS-II : -

Tool used (Development tools - H/w, S/w) : Streak, Google Earth

Objectives of the project : Lead Generation

Major Learning Outcomes : -

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Decent

Academic courses relevant to the project : None

PS-II Station : Divgi Torq Transfer Systems Ltd. Shirwal , Pune

Faculty

Name: R S Reosekar

Student

Name: PRADYUMAN TURLAPATI(2020A4PS1882G)

Student Write-up

PS-II Project Title: A Report on Training Module and Skill Matrix

Short Summary of work done during PS-II : In my internship at Divgi TorqTransfers' Shirwal Plant, I undertook pivotal roles in two transformative projects. The Training Module project aimed at optimizing onboarding, providing new employees with a profound understanding of the company's values and EV transmission manufacturing intricacies. Through extensive site visits, interaction with on-ground workers, and photography documentation, I crafted a visually engaging and informative training tool. The Skill Matrix project, a dynamic database for talent management, involved categorizing employees by skill levels and maintaining an Excel spreadsheet for efficient workforce deployment. I streamlined data gathering by interacting with group leads and HR, ensuring a comprehensive record of permanent and contractual workers. My contributions extended to regular updates, emphasizing the project's adaptability and relevance. These projects collectively enhanced my skills in training material development, human resource management, and the strategic alignment of talent with operational needs. Overall, my internship provided a holistic understanding of organizational dynamics, particularly within the context of EV gearbox manufacturing, marking a significant step in my professional growth.

Tool used (Development tools - H/w, S/w) : MS-Power Point & MS-Excel

Objectives of the project : Training Module: 1.Streamline onboarding.| 2.Introduce core values and mission.| 3.Provide a comprehensive understanding of EV gearbox manufacturing.| 4.Optimize the training period. || Skill Matrix: 1.Enhance talent management.| 2.Categorize employees based on skill levels.| 3.Facilitate efficient workforce optimization.| 4.Ensure seamless transitions and task assignments.

Major Learning Outcomes : Throughout my internship at Divgi TorqTransfers' Shirwal Plant, the major learning outcomes were multifaceted. Firstly, I gained a deep understanding of effective onboarding processes through the development and implementation of the Training Module. This

Details of Papers/patents : I did not use any papers or patents

Brief Description of working environment, expectations from the company : The working environment at Divgi TorqTransfers' Shirwal Plant was dynamic and collaborative, fostering a culture of innovation and excellence. The emphasis was on hands-on learning, and I was encouraged to immerse myself in the industrial processes, interact with on-ground workers, and gain practical insights. The company expected a meticulous approach to project execution, with a focus on detail and a commitment to maintaining high standards. A proactive attitude towards problem-solving and a continuous improvement mindset were valued. The company's commitment to sustainability and cutting-edge technology set a backdrop for a stimulating work environment, where learning and innovation were not just encouraged but essential for contributing effectively to the projects and the overall success of the organization.

Academic courses relevant to the project : Manufacturing Management

Engineering Optimization

Manufacturing Process

Advanced Manufacturing Process

**PS-II Station : Divgi TorqTransfer Systems Pvt. Ltd. - Bhosari (New) ,
Pune**

Faculty

Name: R S Reosekar

Student

Name: ANANT NAMBIAR(2020A4PS1446H)

Student Write-up

PS-II Project Title: Capacity Evaluation and Planning for Gear Cutting Operations

Short Summary of work done during PS-II : Obtaining cycle times of individual processes, calculating machine utilization and summarizing them to assign available machines. Preparation of annexures for the purchase of new equipment. Oversee sorting of unward parts.

Tool used (Development tools - H/w, S/w) : Excel, Word, PowerPoint

Objectives of the project : To conduct capacity planning and evaluation for manufacturing processes at Divgi TTS

Major Learning Outcomes : Corporate experience, in-depth understanding of gear cutting processes and capacity planning

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Everyone was very helpful and willing to help, giving me an in-depth knowledge about nearly every sector of the company. The office was a little chaotic from time to time, especially at the end of the month, but I never had to deal with it.

Academic courses relevant to the project : Manufacturing Management, Engineering Optimization, Mechanisms & Machines, Manufacturing Processes, Advanced Manufacturing Processes

Name: ANNIKET JAIN(2020A4PS2130G)

Student Write-up

PS-II Project Title: Gear Microgeometry Optimisation For Noise Reduction In GearBox

Short Summary of work done during PS-II : Read through theory of gears, gear design and loaded tooth contact analysis, slowly built an understanding about how to improve gear meshing characteristics as well as reduce noise produced in operation. May be required to perform experiments, such as checking if two splines fit into each other, or making of an initial prototype for a gearbox.

Tool used (Development tools - H/w, S/w) : MASTA

Objectives of the project : To reduce the noise produced by an EV gearbox by tuning the gear microgeometries by performing LTCA in simulations

Major Learning Outcomes : NVH analysis, EV Gearbox structure and working, Transfer case structure, Gear design, Order analysis, working in a corporate environment and soft skills such as teamwork and communication.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The people at the company were supportive, you would need to interact with the employees to properly gel with them. They did not have a simulation department so it was necessary for me to put effort with communicating with them. The managers expectation were for me to generate reports as well as keeping them updated with my project. You may be required to perform certain tests or experiments for other tasks.

Academic courses relevant to the project : Mechanisms and Machines, Vibrations and Controls

PS-II Station : Divgi TorqTransfer Systems Pvt. Ltd. , Sirsi

Faculty

Name: R S Reosekar

Student

Name: HERAMB SANJEEV PATKAR(2020A4PS2288H)

Student Write-up

PS-II Project Title: PREPARATION OF TRAINING MODULES FOR DIFFERENT OPERATOR SKILL LEVELS FOR CNC MACHINES DOING SOFT MACHINING

Short Summary of work done during PS-II : Machine operators at the Sirsi plant in Karnataka help manufacture crucial batches of gears and shafts required for assemblies of transfer cases, transmissions, and other essential powertrain components. These components must be made with extremely tight metric tolerances and allowable errors. Thus, for ease of operation, there needs to be streamlined educational content which helps educate, train and understand the machine operations and commands for the quality production of entire batches for different levels of operator skill. I had to make training modules for operator training and reference. These training modules shall be standardized by the firm across 4 locations of it's plants

Tool used (Development tools - H/w, S/w) : Fusion360, Office Lens, MS PPT,

Objectives of the project : Make training Modules for advanced machining equipment

Major Learning Outcomes : Communications, Management, Lean Manufacturing techniques

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The shop floor experience stands in stark contrast to the academic setting of air-conditioned classrooms in

engineering. Small actions wield significant influence on production data, necessitating seamless training. The company anticipated module completion within specified deadlines. Initially, interacting with the workforce may pose a challenge, but camaraderie builds over time. The plant's somewhat remote location suggests seeking nearby accommodation. Expect lengthy work hours, adhering to a strict 6-day week, with occasional Sunday calls. The workload can be draining, and sick days impact the stipend directly.

Academic courses relevant to the project : Computer Aided Manufacturing, Manufacturing Management

PS-II Station : Dozer Data Pte Ltd , Pan India

Faculty

Name: Akshaya G

Student

Name: SHELAR MRUNMAY MOHAN(2019B1A71116G)

Student Write-up

PS-II Project Title: Implement client-facing libraries and sample client applications to showcase the functionality of Dozer

Short Summary of work done during PS-II : The work at Dozer was to create samples for use cases for the users to get started with Dozer. My tasks included creating an onboarding experience for the newly joining users on Dozer Cloud. And also writing documentation for the same. Developing demos and coming up with and implementing new use cases for Dozer; this included creating a GPT Slack bot with Dozer workflow and an ONNX sample for creating a fraud detection pipeline.

Tool used (Development tools - H/w, S/w) : S/w: Rust, Dozer, AWS s3, EKS, EC2, DyanamoDB, React, Github

Objectives of the project : The objective of the project was to create usecase examples for Dozer inorder to add more functionality and showcasing it for the new users.

Major Learning Outcomes : I learned more about Rust and fixing and debugging bugs in Dozer. Along with this, I used various data sources, including Snowflake, Kafka, grpc, as well as frameworks like ONNX, boltjs and openai assistant API

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The work for Dozer Data was utterly remote. However, I attended a conference on Big Data and the AI world hosted in Singapore for Dozer. The work revolved around finding datasets and using use-case examples for Dozer, among other things. All the senior members of the team are helpful while asking doubts, which creates a growing environment for learning.

Academic courses relevant to the project : DBMS, DSA

Name: [YATIN SINGLA\(2020A7PS0020P\)](#)

Student Write-up

PS-II Project Title: Modifying Samples to work with Dozer Cloud

Short Summary of work done during PS-II : During a six-month internship at Dozer, I spearheaded the development of an innovative real-time Ethereum dashboard using the Dozer platform and Power BI. Leveraging Dozer's capabilities to seamlessly integrate and transform data from Ethereum's WebSockets and Infura's infrastructure, I enabled continuous monitoring of USDT transfers on the Ethereum blockchain. The implementation involved establishing Ethereum connections, querying on-chain data, performing real-time aggregations, merging on-chain and

off-chain data, and exposing APIs for comprehensive data access. Additionally, I facilitated the deployment of the Dozer application to the cloud, connecting it to Power BI for dynamic visualization. The result is a powerful dashboard that empowers businesses to make timely decisions by tracking, analyzing, and visualizing real-time USDT transactions. This project showcased my proficiency in data engineering, API development, cloud deployment, and data visualization.

Tool used (Development tools - H/w, S/w) : Rust, React, Postgres, AWS S3, Power BI

Objectives of the project : Enable real-time monitoring and visualization of USDT (Tether) transfers on the Ethereum blockchain using Dozer and Power BI

Major Learning Outcomes : Real-Time Data Integration, Power BI Usage, Dozer's Capabilities, Cloud Deployment

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The features developed by me had direct customer impact. Despite being an intern, I was given the same amount of responsibility as a full time developer on the team. My team and manager helped me come up with effective ways to manage my tasks.

Academic courses relevant to the project : DBS, Computer Networks

PS-II Station : DXC Technology , Bengaluru

Faculty

Name: Shree Prasad Maruthi

Student

Name: HARSH GARG(2019B1A31118G)

Student Write-up

PS-II Project Title: An Intelligent Health Insurance Chatbot

Short Summary of work done during PS-II : My experience during Practice School II at DXC Technology has been truly enriching, providing me with a valuable glimpse into the corporate world. Collaborating with seasoned professionals, I engaged in the hands-on development of projects that allowed me to apply theoretical knowledge in real-life settings. This Practice School II not only exposed me to the dos and don'ts of the corporate environment but also significantly enhanced my soft skills. Working on two pivotal projects, namely the creation of "Alina," an Intelligent Health Insurance Chatbot, and the exploration of Generative AI, delved deep into Machine Learning, Artificial Intelligence, and Generative AI. The immersion in AI development, from conceptualization to deployment, has equipped me with a diverse skill set. The dual focus on healthcare and generative technologies has provided a nuanced understanding, blending technical proficiency with ethical considerations. So as I conclude Practice School II, I am thankful to the Practice School Division for the impactful experiences and look forward to applying these skills in my future endeavors within the dynamic realm of artificial intelligence.

Tool used (Development tools - H/w, S/w) : Python,Google Generative AI,PyPDF2,Streamlit,Langchain,FAISS,JIRA,Google PaLM,

Objectives of the project : Improve accessibility to health insurance information ,Provide instant and 24/7 assistance for insurance-related queries., Simplify understanding of complex policy details ,Educate users on their coverage to promote optimal utilization of benefits

Major Learning Outcomes : In conclusion, my internship at DXC Technology has been a transformative and intellectually enriching experience, marked by significant contributions to two cutting-edge projects: "An Intelligent Health Insurance Chatbot" and the exploration of "Generativ

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Working Environment : 9-5 working hours, work from home, mentors and other company colleagues understand your problem and they don't prioritise their work rather prioritise our problem.
Expectations from the company: punctuality, complete the tasks on time

Academic courses relevant to the project : Machine Learning, Neural Networks

Name: MADHAV SINHA(2019B4AA0749G)

Student Write-up

PS-II Project Title: Health Insurance Chatbot

Short Summary of work done during PS-II : The chatbot application leverages a combination of web development (Streamlit), PDF text extraction (PyPDF2), and advanced language processing technologies (langchain, GooglePalmEmbeddings, GooglePalm) to create a user-friendly interface for interacting with PDF documents and obtaining information through natural language conversations. Additionally, FAISS is used for efficient storage and retrieval of information, and ConversationBufferMemory manages the chat history for contextual awareness.

Tool used (Development tools - H/w, S/w) : Python, Streamlit, Langchain, PyPDF2, Google.generativeai, GooglePalmEmbeddings, FAISS

Objectives of the project : To improve accessibility to health insurance information and simplify understanding of complex policy details.

Major Learning Outcomes : Learnt new technologies in the field of Artificial Intelligence and gained hands-on experience in building an intelligent chatbot.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : It was totally work from home. We were expecting the company to allot us some ongoing projects but they gave us a new stand alone project.

Academic courses relevant to the project : N/A

Name: SINGH AAYUSHRAJ ANUJ(2020A3PS0497G)

Student Write-up

PS-II Project Title: Intelligent health insurance chatbot

Short Summary of work done during PS-II : While working with DXC Technology for 5 months in the healthcare domain. During my internship as a product management intern, I played a crucial role in the development and enhancement of the healthcare chatbot. My responsibilities encompassed a range of tasks aimed at improving the overall functionality, user experience, and performance of the chatbot. Major contributions and learnings were - User Research and Feedback Analysis, Feature Development, Cross-Functional Collaboration, Quality Assurance and Testing, Data Analysis and Iterative Improvements, Documentation, and Stakeholder Communication. Overall, my learning as a product management intern was focused on optimizing the healthcare chatbot to meet user needs effectively, fostering collaboration across teams, and ensuring the product's success in the dynamic health-tech landscape.

Tool used (Development tools - H/w, S/w) : Python,Google Generative AI,PyPDF2,Streamlit,Langchain,FAISS,JIRA,Google PaLM

Objectives of the project : Simplify understanding of complex policy details

Major Learning Outcomes : While working with DXC Technology for 5 months in the healthcare domain. During my internship as a product management intern, I played a crucial role in the development and enhancement of the healthcare chatbot. My responsibilities encompassed a range of

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : DXC Technology has a good work environment. The whole internship was remote, and there were flexible timings. We had a lot of interaction with the upper management before finalizing our project.

Academic courses relevant to the project : None

Name: [AKKINEPALLI ASHRITH DESHMUKH\(2020A3PS1447G\)](#)

Student Write-up

PS-II Project Title: Intelligent Healthcare Insurance Chatbot

Short Summary of work done during PS-II : Our healthcare-centric chatbot application represents a pivotal advancement in healthcare communication. Designed to cater to a broad spectrum of users, including healthcare professionals and patients, the chatbot ensures prompt responses for swift access to information. Its fundamental features, such as PDF processing and text extraction, optimize data retrieval processes for healthcare professionals, enhancing overall efficiency. These features significantly enhance the speed and efficiency with which healthcare professionals can retrieve vital data, ultimately fostering more informed decision-making. In summary, our healthcare chatbot epitomizes a commitment to innovation, efficiency, and user-centric principles within the dynamic landscape of healthcare technology.

Tool used (Development tools - H/w, S/w) : ,Google PaLM, Python, Google Generative AI, PyPDF2, Streamlit, Langchain, FAISS, JIRA

Objectives of the project : Provide instant and 24/7 assistance for insurance-related queries with the help of Generative AI Chatbot.

Major Learning Outcomes : Learnt Dealing with Large Language Models(LLMs), building a chatbot from scratch.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Work from Home. Mentors were lenient and guided us throughout the internship.

Academic courses relevant to the project : Machine Learning, Natural Language Processing

Name: [SUYASH IYENGAR\(2020A8PS1795G\)](#)

Student Write-up

PS-II Project Title: Intelligent HealthCare Insurance

Short Summary of work done during PS-II : Our healthcare-centric chatbot application represents a pivotal advancement in healthcare communication. Designed to cater to a broad spectrum of users, including healthcare professionals and patients, the chatbot ensures prompt responses for swift access to information. Its fundamental features, such as PDF processing and text extraction, optimise data retrieval processes for healthcare professionals, enhancing overall efficiency. These features significantly enhance the speed and efficiency with which healthcare professionals can retrieve vital data, ultimately fostering more informed decision-making. In summary, our healthcare chatbot epitomises a commitment to innovation, efficiency, and user-centric principles within the dynamic landscape of healthcare technology.

Tool used (Development tools - H/w, S/w) : Python,Google Generative AI,PyPDF2,Streamlit,Langchain,FAISS,JIRA,Goggle PaLM,

Objectives of the project : Educate users on their coverage to promote optimal utilization of benefits

Major Learning Outcomes : During my transformative 5-month internship at DXC Technology, I successfully developed a healthcare insurance chatbot using large language models. This immersive experience allowed me to apply theoretical knowledge to real-world projects, enhancing both

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Work from home. Mentors were lenient.

Academic courses relevant to the project : None

PS-II Station : e6data , Bengaluru

Faculty

Name: Ashish Narang

Student

Name: AGRAWAL PRATHAMESH BIPIN(2019B1A30999G)

Student Write-up

PS-II Project Title: Benchmarking using JMeter

Short Summary of work done during PS-II : Worked on benchmarking e6data and other query engines using JMeter and stored the results in parquet format in S3. Simulated different complex real world scenarios like scale up and down of load on the engine. Worked on building a connector for Redash which will use e6data for querying the data.

Tool used (Development tools - H/w, S/w) : ItelliJ, Maven, Java

Objectives of the project : -Run JMeter programatically -Store results in parquet -

Major Learning Outcomes : Learnt how JMeter is used for load testing. Learnt columnar storages and parquet file format

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : -Good working environment -Expect a self sufficient coder

Academic courses relevant to the project : OOP, OS, DSA

Name: [PILLALAMARRI SATYA PRANAV\(2019B4A80800H\)](#)

Student Write-up

PS-II Project Title: Automation framework for SQL coverage of the engine

Short Summary of work done during PS-II : It is quite an experience working here for 6 months, mentors are easily approachable, my work included generating millions of complex sql queries and run them against various engines and compare and analyse the result in a automated way

Tool used (Development tools - H/w, S/w) : Jenkins, goland, intellij,s3,ec2,github

Objectives of the project : To identify the errors in the e6 engine with the help of a automated tool

Major Learning Outcomes : Working in a startup, how to grasp various things and put them into application

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Being a startup the work is fast paced and learning and working happens parallely. Saturday is also a working day

Academic courses relevant to the project : DBMS, computer networking, DSA

Name: ABDUL JAWAD KHAN(2019B5A30825G)

Student Write-up

PS-II Project Title: Making a Cardinality Estimator for Join Reordering

Short Summary of work done during PS-II : The Mutable implementation of DeepDB in C++, while showcasing improved efficiency and speed, is currently under development and lacks essential functionalities, including SQL query parsing and the implementation of Conjunctive Normal Form (CNF). Despite the syntactic similarities between C++ and Java, the code conversion process faced challenges due to the absence of a Java equivalent for the Eigen library, a key component in the C++ implementation. To address this, the Apache Commons Math library serves as a viable alternative in the Java version. Additionally, the manipulation of incoming data, originally managed through Eigen matrices in C++, is now facilitated in Java using the Apache Hadoop framework, enabling the conversion of data tables into type-specific vectors for further processing. The ongoing development aims to bridge these gaps and ensure a comprehensive feature set for the C++ implementation of DeepDB in Mutable.

Tool used (Development tools - H/w, S/w) : Docker, Python, C++, Java

Objectives of the project : Research and development of a Cardinality Estimator, which predicts the amount of information being returned by a query.

Major Learning Outcomes : During the internship, I acquired knowledge of machine learning concepts such as Neural Networks and Sum Product Networks, gained hands-on experience in training and comparing different models, and significantly enhanced my proficiency in C++, focusing on

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : E6data, a three-year-old startup focused on revolutionizing data querying, provides a dynamic and demanding working environment rooted in a startup culture. This atmosphere encourages pushing technological boundaries and creating innovative solutions. Team members experience a challenging yet enriching setting that emphasizes continuous learning and professional development, given the pioneering nature of their work with cutting-edge concepts.

The company's expectations are aligned with a commitment to innovation and excellence, reflecting the high-tech landscape in which E6data operates. Employees are not only expected to navigate the complexities of emerging technologies but are also actively engaged in contributing to groundbreaking solutions in data management. The working environment balances the demands of pushing technological frontiers with a supportive culture that encourages collaboration and skill development.

In this dynamic setting, E6data stands as more than a workplace; it serves as an incubator of ideas where each team member plays a crucial role in shaping the future of data querying technology. The company's approach combines setting high industry standards with actively cultivating an environment where employees contribute to the evolution of the field.

Academic courses relevant to the project : Data Structures and Algorithms, Object Oriented Programming

Name: ARPIT GUPTA(2020A8PS2216H)

Student Write-up

PS-II Project Title: CORE TEAM projects

Short Summary of work done during PS-II : During my PS-II internship at , I undertook a dynamic role, actively contributing to various projects that enriched my understanding of the practical applications of my academic knowledge. One significant project I was involved in was the development of [specific project or system]. In this capacity, my responsibilities ranged from coding and testing to debugging, allowing me to immerse myself in the intricacies of software development. Throughout the internship, I collaborated seamlessly with cross-functional teams, refining my communication and teamwork skills. Engaging in complex problem-solving scenarios further honed my analytical abilities and critical thinking. The exposure to client interactions was a highlight, where I had the opportunity to comprehend client requirements and implement solutions tailored to their needs. This experience not only expanded my technical proficiency in but also strengthened my communication skills through regular interactions with team members and clients. Additionally, workshops and training sessions organized by the company provided valuable insights into the latest industry trends and technologies.

Tool used (Development tools - H/w, S/w) : IntelliJ , dell i7 pc , slack , conflo ,jira software

Objectives of the project : To make the query engine as fast it can by eliminating the errors and refactoring the code .

Major Learning Outcomes : Got to learn java, dbms, OS , obviously code , debugging

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment at e6data during my PS-II internship was dynamic and collaborative. The company fostered an atmosphere of innovation and continuous learning, encouraging employees to engage in open communication and teamwork. The office space was equipped with modern facilities, and the team structure facilitated cross-functional collaboration, allowing for a diverse exchange of ideas and expertise.

Expectations from the company were high, emphasizing a commitment to excellence and a proactive approach to problem-solving. Team members were encouraged to take ownership of their tasks and contribute innovative solutions to challenges. The company's culture prioritized staying abreast of industry trends and advancements, with regular workshops and training

sessions organized to ensure that employees remained up-to-date with the latest technologies. Furthermore, there was a strong emphasis on effective project management, with an expectation that deadlines would be met, and resources utilized efficiently.

Overall, the working environment and company expectations were designed to provide a platform for professional growth. The collaborative atmosphere and high expectations fostered a sense of responsibility and accountability among team members, creating a stimulating and rewarding environment for interns to contribute meaningfully to projects and expand their skill sets.

Academic courses relevant to the project : DSA, OOPS , OS

PS-II Station : EConsystems (VIS AI Labs) , Chennai

Faculty

Name: Suparna Chakraborty

Student

Name: KAUSHIK PATTANAYAK .(2019B4A80653P)

Student Write-up

PS-II Project Title: Developing algorithm for automatic detection of patches in ITDR CHART. 2) to develop an algorithm to calculate distortion and chromatic aberration using dot pattern

Short Summary of work done during PS-II : Developed algorithm for Image quality analysis tools. In which I developed algorithm to detect the 36 patches of a ITDR 36 chart using openCV and machine learning. My 2nd project is to detect the distortion and chromatic aberration in dot pattern chart.

Tool used (Development tools - H/w, S/w) : Python, opencv, ultralytics, yoloV5, PyQt

Objectives of the project : developing algorithms for Image quality analysis tool

Major Learning Outcomes : Opencv, machine learning , Pyqt, Blob detection

Details of Papers/patents : Referred to ieee 1858

Brief Description of working environment, expectations from the company : Expectations from me is to deliver algorithms which are robust to distortion and exposure. And also the algorithm should work with highest exposure as well. All the things have been delivered more than expected

Academic courses relevant to the project : Programming, image processing

Name: PARTH ANAND MALU .(2019B4A80683P)

Student Write-up

PS-II Project Title: Jizera

Short Summary of work done during PS-II : Learnt a lot about corporate world and client dealing.

Tool used (Development tools - H/w, S/w) : OpenGL, Gstreamer, OpenCV, C++

Objectives of the project : Distortion correction and HMD stream from high FOV stereo camera pair

Major Learning Outcomes : OpenGL, Gstreamer, OpenCV, C++

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment was okay. Language barrier is major concern. I expected more AI ML projects as mentioned in the ps list.

Academic courses relevant to the project : Mathematics courses

Name: SAHIL SHARMA .(2020A3PS0319P)

Student Write-up

PS-II Project Title: Implementing Machine Learning to remove Dust noise from TOF camera feed in real-time

Short Summary of work done during PS-II : I developed a temporal filter that uses standard deviation instead of mean, which allows for better dust particle removal. I then trained a ML model to detect dust particles in the feed and integrated it into the camera live feed so that the filter can be applied in only dust-infested regions, running on GPU for maximum FPS

Tool used (Development tools - H/w, S/w) : Gitlab, E-Con Applications, Google Colab, TOF Cameras, NVIDIA Jetson AGX Xavier

Objectives of the project : To develop a filter to remove dust noise from TOF camera and integrate it with ML model for pinpoint application of the filter

Major Learning Outcomes : Learned about YOLO model, Software Development in C++, CUDA, TensorRT and APIs

Details of Papers/patents : The algorithm I worked on will be patented in the future by the company

Brief Description of working environment, expectations from the company : The work provided me with a lot of experience and knowledge and I was able to level up multi-fold. However,

some barriers were there because of language and cultural differences, which took a long time to get adapted to.

Academic courses relevant to the project : Neural Network and Fuzzy Logic, DSA

Name: DAKSH CHAUHAN(2020A3PS1769G)

Student Write-up

PS-II Project Title: Blemish Detection tool, Camera Calibration tool

Short Summary of work done during PS-II : I worked on two projects: blemish detection and camera calibration. In blemish detection, I developed an application that denoises the image, crop(and align) to the region of interest and finally detect blemishes(dust, dents, contaminants) on the image sensor. In Camera Calibration, I made a comprehensive guide about the components of camera calibration including, multiple algorithms, models, methodologies, setup-environments (lighting conditions and calibration targets). I also collected, analysed and evaluated data on the same components. I also implemented a PoC(Proof of Concept) application based on the aforementioned components.

Tool used (Development tools - H/w, S/w) : S/w: OpenCV, python, Calib's Camera Calibration Software. H/w: Variety of cameras and lenses, Calibration Boards, Image Box with controllable ring lighting setup

Objectives of the project : Development of an algorithm to detect the presence of particles (blemishes) on image sensor of camera module. Analyze and document various components of camera calibration process along with a PoC (Proof of Concept) implementation

Major Learning Outcomes : Digital image processing
OpenCV-python
Computer Vision
Data analysis and visualization

Product Quality

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment at e-con Systems was collaborative and dynamic. I felt valued and supported by my team, who were always willing to offer guidance and share their expertise. I was allowed to work independently but with regular check-ins.

My primary expectation from the company was to gain practical experience in industry and contribute to meaningful and important projects. I was particularly interested in computer vision and e-con Systems provided me with the opportunity to do so. Additionally, I valued the company's commitment towards product quality.

Overall, my internship met my expectations and provided me with valuable insights into the industry.

Academic courses relevant to the project : Digital Image processing

Computer Programming

Name: AMAAN SADRIWALA(2020A8PS1800G)

Student Write-up

PS-II Project Title: MRP II (Manufacturing Resource Planning) – Modelling and Forecasting Purchase Orders

Short Summary of work done during PS-II : Analysed purchased order data of the company and tried to make a fuzzy inference model to forecast purchase order from publicly listed clients based on their financials

Tool used (Development tools - H/w, S/w) : Python 3, Microsoft Excel, Jupyter Notebook

Objectives of the project : Build a model to forecast purchase orders from clients

Major Learning Outcomes : Learnt how to analyze data and build fuzzy inference systems.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Polite and supportive working environment with consistent guidance from mentors and supervisors

Academic courses relevant to the project : None

Name: KHUSHAAL CHABA .(2020A8PS1816P)

Student Write-up

PS-II Project Title: Automatic Calibration Tool for Bird's Eye View System

Short Summary of work done during PS-II : Performing calibration in simulation in ideal surroundings, followed by non-ideal surroundings. After that using real cameras and performing intrinsic calibration first for each camera followed by extrinsic calibration. Extrinsic calibration includes rotation, scaling and translation.

Tool used (Development tools - H/w, S/w) : OpenCV, OpenGL, STURDeCAM21 cameras, tripod stands, GMSL cables, Hugin, Gazebo, Gimp, Linux

Objectives of the project : Intrinsic and Extrinsic calibration of Bird's eye view camera system.

Major Learning Outcomes : OpenCV library, cpp and python, camera basics and products.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : It is a good working environment, a lot to learn from the company. Company is still in the growing phase and

they constantly develop new camera products, so you learn a lot here. Good place for initial development and growing stage.

Academic courses relevant to the project : Foundations of Data Sciences, Machine Learning, C-Programming, Operating Systems.

Name: TEJASWI REDDY CHILLAKURU(2020AAPS1329H)

Student Write-up

PS-II Project Title: Person detection and tracking model on Ambarella SoC

Short Summary of work done during PS-II : I had to develop a Person detection and tracking algorithm to be deployed in real time on Ambarella SoC. I had to learn about multiple models and execute preprocessing and evaluate. I also had to deploy the model on Ambarella using its SDK and evaluate.

Tool used (Development tools - H/w, S/w) : Python , Ambarella SoC, Machine learning , SORT tracking algorithm ,

Objectives of the project : Had to develop real-time person detection and tracking model on the Ambarella System-on-chip

Major Learning Outcomes : Learnt many preprocessing techniques and worked with the Ambarella hardware, got exposure to many ML models.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Very good working environment , mentors help and guide and we can learn a lot from the centre.

Academic courses relevant to the project : Digital Image processing , Machine learning , foundation of data science

PS-II Station : Ecosi Energy Pvt. Ltd , Noida

Faculty

Name: Madhuri Bayya

Student

Name: GEORGE THOMAS PUTHENVEETIL .(2020A8PS0558P)

Student Write-up

PS-II Project Title: Navigating the Lithium-ion Battery Industry Landscape and Real-time Electrical Parameter Monitoring System with ESP32 and Data Analysis using Python

Short Summary of work done during PS-II : This project involves the design and implementation of a comprehensive monitoring system using an ESP32 microcontroller to measure voltage and current through a 25V voltage sensor and ACS712 module, respectively. The setup incorporates a TP4056 charger to simulate charge and discharge cycles. Through WiFi connectivity, the ESP32 transmits real-time voltage and current data to Google Sheets. Additionally, Python code has been developed to calculate essential parameters such as Power, Energy, RMS_V (Root Mean Square Voltage), and RMS_C (Root Mean Square Current). The project aims to provide an integrated solution for accurate monitoring and analysis of electrical parameters in a user-friendly manner. Key findings include successful data transmission to Google Sheets and accurate calculations of Power, Energy, RMS_V, and RMS_C, contributing to enhanced understanding and control of electrical systems.

Tool used (Development tools - H/w, S/w) : Esp32, python , ACS712

Objectives of the project : Integrated Monitoring and Analysis System for Electrical Parameters with ESP32: Real-time Data Transmission and Computation of Power, Energy, and RMS Values

Major Learning Outcomes : Gained knowledge in electronics and how to conduct thorough research

Details of Papers/patents : No patents filed

Brief Description of working environment, expectations from the company : Working from home with flexible timing and manageable deadlines with frequent meetings with the company

Academic courses relevant to the project : EIT, IIC

Name: VAISHNAV PRASAD R K(2020A8PS0728G)

Student Write-up

PS-II Project Title: Navigating the Lithium-ion Battery Industry Landscape and Real-time Electrical Parameter Monitoring System with ESP32 and Data Analysis using Python

Short Summary of work done during PS-II : The primary objective is to bridge this gap by implementing a Real-time Electrical Parameter Monitoring System using the ESP32 platform and Python for data analysis. This innovative system aims to achieve accurate and cost-effective real-time measurements of voltage and current, enhancing user awareness of energy consumption patterns. The project not only addresses challenges in traditional energy monitoring but also contributes to data-driven decision-making for sustainable and efficient utilization of electrical resources.

Tool used (Development tools - H/w, S/w) : ESP32, Python3.10

Objectives of the project : 1.Addressing Challenges in Energy Monitoring. 2. Modernizing Monitoring Approaches. 3. Contributing to Data-Driven Decision-Making

Major Learning Outcomes : Importance of Data Visualization, Flexibility and Modularity in Code Design

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : This project demands a collaborative environment where expertise in lithium-ion battery technology, embedded systems, IoT, and data analysis converges. Expectations from the company include fostering innovation, providing resources for hardware and software development, and supporting a dynamic, interdisciplinary team to achieve accurate real-time monitoring and data-driven insights.

Academic courses relevant to the project : Internet of Things, Electrical Sciences

PS-II Station : Eightfold AI India Pvt. Ltd. , Bengaluru

Faculty

Name: Venkata Krishna Sashank Dara

Student

Name: VIDHANI HITEN JITENDRA(2019B4A70812H)

Student Write-up

PS-II Project Title: PII Masker

Short Summary of work done during PS-II : My majority work was in the back-end including my major project as well as another small project that I worked on. Occasionally, I took up tasks related to front-end as well as infrastructure as and when required. In the evolving world of Large

Language Models, my work was related to the privacy concerns of the LLMs. The problem comes with its own challenges such as preserving context with masking. Another project that I worked on was the “Help me write” capability which helps in generating email, job description and in turn reduces the time to hire. I got introduced to a lot of new technologies like Reactjs, Pytest, Pylint, Solr search and had got an experience on how they are implemented at a large scale.

Tool used (Development tools - H/w, S/w) : Database: MySQL, Front-end: JavaScript,React.js,HTML/CSS, Back-end: Python, Flask Search: Solr

Objectives of the project : • Implement encryption and data masking techniques to safeguard PII data, preventing unauthorized access or data breaches. • Evaluating the implemented approach for encryption and masking and also assess the quality issues that may arise because of masking.

Major Learning Outcomes : - Industry level coding practices

- Integrating LLMs to improve current workflows
- Engaging in code reviews/ Writing production code
- Merge and release - Continuous Integration/Continuous Deployment
- Collaboration with various teams such as Designers,

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment is like a startup and very fast-paced. The students are expected to deliver from the initial weeks, so fast learning is expected. Though fast-paced, the environment is very supportive and helpful. It is a good place for anyone who wishes to learn many new things and take ownership of what they build, as ownership is appreciated in the organisation.

Academic courses relevant to the project : Natural Language Processing, Object Oriented Programming, Database Management Systems

Name: HARSHIT SAMAR(2020A7PS0964G)

Student Write-up

PS-II Project Title: Software Development in Copilot Team

Short Summary of work done during PS-II : My work started with developing a framework which helps to evaluate LLM responses and scores it. Then I took up variety of bugs to get a good understanding of the codebase. Later I worked on developing a feature which used GEN AI to craft email responses. Last phase of my internship I worked of fine tuning LLM.

Tool used (Development tools - H/w, S/w) : Python, Git, AWS, React

Objectives of the project : I worked in the copilot team where my work was to develop an evaluation framework and work on capabilities.

Major Learning Outcomes : I learnt to write industry level code and take ownership of the projects.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The company's work culture was very good. All the employees were way too helpful and were always available to help. The company expects interns to take full ownership of the work and deliver on time.

Academic courses relevant to the project : DSA, OOP, DBMS

PS-II Station : Eltropy - Customer Support Group , Bengaluru

Faculty

Name: Arindam Roy

Student

Name: Samit Sanjeev Dosi(2019B4A40643P)

Student Write-up

PS-II Project Title: Customer Success

Short Summary of work done during PS-II : Supporting customers with their doubts, improving their messaging capabilities, implementation of AI chatbots

Tool used (Development tools - H/w, S/w) : Voiceflow, Jira, Twilio, Bandwidth, Excel, SQL

Objectives of the project : Supporting customers with their doubts, improving their messaging capabilities, implementation of AI chatbots

Major Learning Outcomes : Communication, leadership, ownership

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Work from home, decent work and plenty of reimbursements

Academic courses relevant to the project : -

PS-II Station : Ergon Technologies - Tech , Ernakulam

Faculty

Name: Venkata Krishna Sashank Dara

Student

Name: ARYAMA AVADH(2020A4PS1558G)

Student Write-up

PS-II Project Title: Digital Transformation through Integrated Data Solutions: A Comprehensive Analysis of ERP Portal Development and Automated Data Integration for Enhanced Operational Efficiency

Short Summary of work done during PS-II : The scope of this project encompasses the development and implementation of a comprehensive workshop management system. The system will cover key functionalities, including project checklists, project details, timesheets, incoming and outgoing deliveries, outsourcing, reports, inspections, items received, finished goods, team details, consumables, and purchases. The project will involve creating a user-friendly web application that allows for efficient data entry, tracking, and management of workshop projects. The system will support features such as dynamic checklists, real-time project status updates, and seamless collaboration among project stakeholders. The scope also includes integrating relevant APIs for fetching and displaying project data, ensuring the system's scalability, and implementing a responsive and intuitive user interface.

Tool used (Development tools - H/w, S/w) : ReactJS, NodeJS, MySQL, ExpressJS

Objectives of the project : Creation of an ERP portal for easing business related communications throughout the company.

Major Learning Outcomes : Cross Team Collaboration, Managing Frontend/Backend of Websites.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company :

Responsibilities: End to End Collaboration, Fast Delivery of Work. Expected Skills: High Proficiency in ReactJS, very good knowledge of Backend Working. Small Company so High Outcome was expected out of everyone. Expected working time: 8-10 hours Mon-Fri. May need to give few hours on weekends if work going slow. Advisable Only for Students very proficient in Coding (At least JavaScript, SQL and Writing APIs). Might need to devote a lot of time in the initial couple of Months. Work gets easier progressively. Had to redo a few screens again to suit needs of other people in the company. Advisable only for students able to sit 10-12 hours in front of laptop. Lot of Patience required in making features initially.

Academic courses relevant to the project : -

PS-II Station : Ericsson Global India Pvt. Ltd. , Bengaluru

Faculty

Name: Lucy J. Gudino

Student

Name: OJAS SULTANPURE(2020A3PS0445P)

Student Write-up

PS-II Project Title: Ericsson User Interface for configuring MLOps usecases

Short Summary of work done during PS-II : built a Ericsson User Interface for configuring MLOps usecase configuration for onboarding of new engineers from scratch, the fronted and the backend with the help Ericsson Design Systems

Tool used (Development tools - H/w, S/w) : 1. FrontEnd 1. HTML 2. CSS 3. JAVASCRIPT 2. Backend 1. Python 2. Flask 3. ElasticSearch 4. Docker for setting up

local environment (containerisation) and accessing the elasticsearch server, creating the image
5. Kuberne

Objectives of the project : To gather the data and fetch the parameters in the UI for the usecase configuration To convert the gathered data in a yaml file with a particular indentation

Major Learning Outcomes : 1. FrontEnd

1. HTML
2. CSS
3. JAVASCRIPT

2. BackEnd

1. Python
2. Flask

3. ElasticSearch 4. Docker for setting up local environment (containerisation) and accessing the elasticsearch server, creating the image

5. Kuberne

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work environment is quiet stress free and relax, the mentors are supportive and helping in the best possible manner they can, nature of internship is work from home.

Academic courses relevant to the project : EEE student, no idea regarding the courses

Name: AKHIL A BINU(2020A3PS0560G)

Student Write-up

PS-II Project Title: AUTOMATION OF DATA ANALYSIS AND PREDICTION OF PROJECT DURATION USING MACHINE LEARNING

Short Summary of work done during PS-II : The objective of the project was to migrate data visualization from tableau to power bi and automate the process of data visualization in power bi using python selenium and excel macros. The purpose of the project is to reduce the effort required for data visualization which included the process such as fetching data from various company servers , applying macros and updating the power bi dashboards. The second phase of the project consisted of building a ML model based on Linear regression for determining the duration of a project to be presented before stakeholders.

Tool used (Development tools - H/w, S/w) : Python (Selenium, Data science libraries) , Power BI , Docker , Excel , Machine learning tools

Objectives of the project : The objective of the project was to migrate data visualization from tableau to power bi and automate the process of data visualization in power bi using python selenium and excel macros. The purpose of the project is to reduce the effort required for data visualization which included the process such as fetching data from various company servers , applying macros and updating the power bi dashboards. The second phase of the project consisted of building a ML model based on Linear regression for determining the duration of a project to be presented before stakeholders

Major Learning Outcomes : Data Analytics and visualization , Automation, Machine Learning, Power Bi , Python

Details of Papers/patents : nil

Brief Description of working environment, expectations from the company : Good work environment , Possibility of work from home . Manager was supportive and helpful. GAIA team focuses on building AI model for telecom use-cases.This facility is key in accelerating the execution of Ericsson's focused strategy by leveraging cutting edge AI and Automation technologies to create data driven, intelligent, and robust systems for automation, evolution, and growth.

Academic courses relevant to the project : Computer Programming.

PS-II Station : Ericsson India Global Services Pvt. Ltd. , Chennai

Faculty

Name: Lucy J. Gudino

Student

Name: SIDAARTH BALAJI(2020AAPS1026G)

Student Write-up

PS-II Project Title: Twai scanner

Short Summary of work done during PS-II : Created a twai scanner using LLMs and made basic ui

Tool used (Development tools - H/w, S/w) : Generative AI,Flask

Objectives of the project : Create a twai scanner

Major Learning Outcomes : Data science

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Everyone was very kind and helpful. Expectations were moderate with a good amount of work assigned everyday.

Academic courses relevant to the project : Artificial intelligence

PS-II Station : Ernst & Young L.L.P. , Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: YANA UPADHYAY .(2020B4PS1273P)

Student Write-up

PS-II Project Title: Data Engineering

Short Summary of work done during PS-II : • Built a utilization dashboard for 400+ employees focusing on their monthly and yearly productivity percentage and KPIs • Generated statistical analysis reports and helped build the data pipeline by implementing data quality rules for international clients. • Assisted on projects specializing on mergers and acquisitions, organizational restructuring, performance dashboards by gathering requirements, creating user stories, resolving solution gaps, model dashboards, and building standardized data visualization models to deliver efficient reporting and analytical solutions. • Prepared and presented monthly, quarterly, and annual KPI reports to international clients. • Single handedly managed an international project for 4 months focusing on Month-wise inventory of 11 companies, brought new changes in the scripts that helped in improving the project efficiency by 30%.

Tool used (Development tools - H/w, S/w) : Power BI, Alteryx, Advanced Excel, Azure data explorer, Azure data factory, Databricks, Power Query, Power Automate

Objectives of the project : To understand the role of data analysis in financial data and how it is used in Mergers & Acquisition

Major Learning Outcomes : -Data Visualization and Dashboard Development

- Principles of Mergers & Acquisition
- Role of financial data in M&A
- Statistical Analysis and Data Quality
- Project Management and Requirement Gathering
- Effective Communication and Client Interaction
- Internat

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment, as an intern we were expected to come to the office all 5 days a week, so got a lot of exposure. Plus had a chance to work with people outside the team.

Academic courses relevant to the project : Fundamentals of finance and accounting

Name: SHREYA MISHRA .(2020B4PS1278P)

Student Write-up

PS-II Project Title: Data Analytics & visualisation

Short Summary of work done during PS-II : The major time of the intern included trainings, then applying the learning hands on data, like Power BI as majorly used to make dashboards to keep log of users using the tools compiled and managed by my team, user trackage dashboard mainly, then activities log dashboard to keep track of the team, the projects ongoing, expired projects, decomposition trees to know the hierarchy of projects in the team, sales analysis dashboard, and then health analysis dashboard which focused on life expectancy and various predicting variables, to see which predicting variable contribute most to the life expectancy and applying ml models for further predictions

Tool used (Development tools - H/w, S/w) : Power BI, MySQL, Jupyter Notebook, Alteryx

Objectives of the project : To use Power BI to transform data and make dashboards to keep tab on the tools managed and compiled by the team.

Major Learning Outcomes : Data Visualisation-Power BI dashboards for monitoring Machine Learning- applying different ML models(Linear regression, Lasso, Random forest and gradient boosting) to train datasets and deduce predictions, time series analysis

Details of Papers/patents :

NA

Brief Description of working environment, expectations from the company : The office building is located in the cyberpark region of Gurugram, with all physical amenities such as personal workstations, cafeteria, meeting rooms, coffee n tea stations with proper hygienic conditions.

Although there were 17 people on the team I worked with, I mostly collaborated with 4–5 of them. They were all really kind and encouraging; they assisted me in finding trainings, clarified the operation of specific company pages, reminded me to complete forms and other formalities, and kept good track of my assignments. They also provided me with resources when I needed them, from industry knowledge to hardware assistance.

According to my expectations, this six-month internship gave me with a lot of hands-on experience and really prepared me for the working environment I'll be in in the future; it was a very insightful and practical experience for me.

Academic courses relevant to the project : Applied Statistical Methods, Probability & Statistics, Machine Learning

PS-II Station : Es Magico Experiences Pvt. Ltd. - Nontech , Mumbai

Faculty

Name: Sidharth Mishra

Student

Name: ADITYA VERMA(2020A4PS1873G)

Student Write-up

PS-II Project Title: Develop a real estate CRM/LMS product

Short Summary of work done during PS-II : As the sole product manager of the SaaS product for a real estate company, I was responsible for everything from client management to user research to UI and development processes.

Tool used (Development tools - H/w, S/w) : Design - Figma, Backend - Django, Frontend - Flutter mobile & web

Objectives of the project : - client & stakeholder management - product documentation (BRD, PRD) - wireframing - User research & UI - sprint planning - development task management

Major Learning Outcomes : - freedom to learn and work in own style

- dealing with stakeholders and negotiating
- built product thinking and sense
- learnt about industry standards product documentations
- in depth user research and UI design
- SaaS product development methodology

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The people, especially the founders (CEO/CTO) are so friendly and they really trust you with the work. They create such an environment that everyone is so approachable and friendly. I guess it's the benefit

of a small scale startup (~50 people). There's plenty of opportunities to learn and explore different projects if you want. Plus there's flexible working hours and location unless the work is being done. P.S. work might spill into weekends a few times, but if you want to learn it's best for you. I couldn't have asked for a better working environment.

Academic courses relevant to the project : Very little - Economics, CP

PS-II Station : ESH Value Technologies , Mohali

Faculty

Name: Sandeep Kayastha

Student

Name: VISHAL PUNDIR .(2019B1A11055P)

Student Write-up

PS-II Project Title: Digital Marketing Internship

Short Summary of work done during PS-II : During my digital marketing internship, I focused on projects to engage students and capture their interest in our courses. I created eye-catching video ads using Adobe Premiere Pro, aiming to quickly capture students' attention with engaging content formats. Additionally, I designed appealing poster ads through Canva and Adobe Illustrator, showcasing our courses in a visually appealing manner targeted specifically for students. Moreover, I managed ad campaigns on Google using Google Ad Manager, learning how to optimize campaigns to attract more students by tracking important metrics like clicks and engagement. Throughout these projects, I improved my skills in video editing, graphic design, and managing ad campaigns while learning how to better communicate with students through our ads. Our efforts successfully attracted more students to our courses, increasing enrollment and

engagement. Overall, this internship taught me valuable lessons about creating effective marketing materials to engage and attract students to educational offerings.

Tool used (Development tools - H/w, S/w) : Adobe Premiere Pro, Canva Pro, Adobe Illustrator, Google Ad Manager, Google Tag Manager

Objectives of the project : Project 1: Create Video Ads for all teachers Project 2: Create Static Poster ads for all teachers. Project 3: Run Ad campaigns using Google Ad Manager

Major Learning Outcomes : Technical Skills: Proficiency acquired in using Canva, Adobe Premiere Pro, Adobe Illustrator, and Google Ad Manager for content creation, video editing, graphic design, and campaign management.

Analytical Skills: Developed skills in analyzing campaign me

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company :

During my internship, the workplace was friendly and encouraged teamwork. They wanted us to be creative, learn new things, and work together well. The company expected us to be curious, come up with new ideas, and try different ways to solve problems. They wanted us to finish our work on time and do it well. They also wanted us to talk openly and learn from feedback.

They liked when we shared our thoughts and worked as a team. It was important to be eager to learn and adapt to changes happening in the industry. The company wanted us to work together, understand what they wanted to achieve, and contribute our ideas.

Overall, the company aimed to create an environment where interns felt supported, learned new things, shared ideas, and worked together to succeed in the digital marketing field.

Academic courses relevant to the project : Short film and Video Production, Finance courses

Name: AKSHAT SINGHAL(2019B2A40936G)

Student Write-up

PS-II Project Title: Management Intern

Short Summary of work done during PS-II : Improving and creating new processes for the company with Data driven Analysis

Tool used (Development tools - H/w, S/w) : Google sheets, CRM's , Appscripts, Lusha

Objectives of the project : To Improve processes with Data backed decisions

Major Learning Outcomes : Improved Data analysis skills

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment is okayish in the company, Tuesday-Sunday is working with fixed 9 hours each day which also extends most of the days, accordingly pay is very less, but you get to learn a lot as the company has proper startup culture, but at the same time good work is not that much appreciated here.

Academic courses relevant to the project : NA

Name: MANUROOP SINGH GILL(2019B4A40799G)

Student Write-up

PS-II Project Title: Business, Supply Growth and Web Development

Short Summary of work done during PS-II : I spearheaded significant initiatives aimed at the growth and enhancement of our organization. Firstly, I took charge of onboarding and launching new teachers across all four categories of the company: Finance, Spirituality, Beauty, and Business. This involved a comprehensive recruitment strategy, vetting qualified professionals,

and orchestrating seamless launches to ensure a diverse and skilled pool of instructors for our clientele. Additionally, I played a pivotal role in elevating our digital presence by designing and launching the Experts Web App. This innovative platform not only streamlined the onboarding process for teachers but also facilitated an enhanced user experience for our students. Simultaneously, I dedicated efforts to update and refine the existing website, ensuring it remained current, visually engaging, and aligned with the evolving needs of our community. These endeavors were marked by meticulous planning, strategic thinking, and a commitment to delivering high-quality educational experiences. The successful onboarding of new teachers and the implementation of technological enhancements underscore my dedication to fostering growth, diversification, and the overall success of our organization in the dynamic landscape of education and expertise.

Tool used (Development tools - H/w, S/w) : Canva, Lusha, VS Code, Excel

Objectives of the project : 1. To onboard and launch new teachers in all 4 categories of the company i.e. Finance, Spirituality, Beauty and Business. 2. Design and launch the Experts Web App and work and update on the existing website

Major Learning Outcomes : Communication, Product Management, MERN Stack

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment at Future University - ESH Value Technologies is characterized by a dynamic and innovative atmosphere that fosters collaboration, creativity, and continuous learning. As an integral part of this forward-thinking organization, employees are encouraged to contribute their unique skills and perspectives to drive technological advancements and educational excellence. Expectations from the company include a commitment to excellence in technology-driven education. Employees are encouraged to stay abreast of industry trends and emerging technologies, actively contributing to the development and implementation of cutting-edge solutions. The organization values a proactive and entrepreneurial spirit, where individuals are empowered to take ownership of their projects and initiatives.

Future University - ESH Value Technologies places a strong emphasis on teamwork and collaboration. Cross-functional cooperation is encouraged to leverage diverse expertise and

perspectives, ensuring holistic and innovative solutions. The company also values a customer-centric approach, aiming to exceed the expectations of both students and instructors by providing an enriching and seamless learning experience.

The expectation is that employees will contribute to the growth of the organization by demonstrating a strong work ethic, adaptability to change, and a passion for advancing educational technology. In this dynamic environment, the company anticipates that its team members will embrace challenges as opportunities for growth and development, ultimately contributing to the success and evolution of Future University - ESH Value Technologies in the ever-evolving landscape of education and technology.

Academic courses relevant to the project : Computer Programming

Name: [MAYANK SANJAY PARNANDIWAR .\(2020A1PS1315P\)](#)

Student Write-up

PS-II Project Title: Investment Associate and Business Analyst

Short Summary of work done during PS-II : The culmination of a six-month internship encompassing diverse projects in the realms of angel investing platforms, investment advisory services, and the launch of a cutting-edge stock investment call service, Warren AI, has been an enriching and transformative journey. Each project provided a unique lens through which to explore the intricacies of the financial landscape, combining theoretical knowledge with hands-on experiences. The venture into angel investing platforms led to the discovery of PodWorld, a platform that not only met but surpassed the stringent criteria set for startup diversity, investor network, due diligence, user-friendly interface, and transparency. The meticulous research methodology employed, including online research, community feedback, expert consultations, and platform demos, showcased the importance of a holistic approach when evaluating investment opportunities.

Tool used (Development tools - H/w, S/w) : CanvaPro, Figma, SQL, Excel, Microsoft-Word

Objectives of the project : 1. Ensuring Regular DealFlow to existing Investors

Major Learning Outcomes : Negotiation, Analytics, Communication

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The culmination of a six-month internship encompassing diverse projects in the realms of angel investing platforms, investment advisory services, and the launch of a cutting-edge stock investment call service, Warren AI, has been an enriching and transformative journey. Each project provided a unique lens through which to explore the intricacies of the financial landscape, combining theoretical knowledge with hands-on experiences.

The venture into angel investing platforms led to the discovery of PodWorld, a platform that not only met but surpassed the stringent criteria set for startup diversity, investor network, due diligence, user-friendly interface, and transparency. The meticulous research methodology employed, including online research, community feedback, expert consultations, and platform demos, showcased the importance of a holistic approach when evaluating investment opportunities.

Academic courses relevant to the project : None

Name: ANKIT KUMAR .(2020A1PS1712P)

Student Write-up

PS-II Project Title: Marketing Analytics

Short Summary of work done during PS-II : I was responsible for managing a new funnel in marketing team along with preparation of data of marketing team and providing with actionable insights to marketing team and visibility of performance of marketing team to stake holders

Tool used (Development tools - H/w, S/w) : PgAdmin4, Webflow, SQL, Excel

Objectives of the project : To provide important insights and more visibility of data of performance of marketing team to the stakeholders

Major Learning Outcomes : Proficiency in Data Handling, Better Business Understanding, Communication Skills

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : ESH Value Technologies also known as The Future University, being a startup has a very undefined structure and role of employees and interns. There is no proper training or mentoring facility available for the interns. The task is also not defined properly, anyone is asked to do anything. My team was shifted twice within the first three months. The interns in the community manager team are also asked to make sales calls and it is kind of a sales and customer support role. However, my role in the second team i.e. Marketing was much better than the community manager role and aligned with my skill sets. I would ask PSD to not allow this company to take interns for the community management role.

Academic courses relevant to the project : Copywriting

Name: PRIYANSHU .(2020A4PS0566P)

Student Write-up

PS-II Project Title: Community Manager and Warren AI Sales Head

Short Summary of work done during PS-II : • Worked on various platforms such as Twitter, Google and Meta Ads and worked on optimizing the performance of the live advertisements to bring leads at relatively less CPL. • Managed complete PNL of trading Bootcamp parallelly working on specifically creating their content, strategizing the proposition & successfully bringing

net profit. • Generated revenue and increased the ROI of the bootcamp to 300% from 100% by efficiently pitching the product across various channels . • Improve the business model by Optimizing the entire funnel of business. Improved the NPS, CSAT and the user experience by working on feedback and directly getting in touch with them. • Took Ownership of Making the Advertisement creatives, also Ran A/B Testing to Determine product market fit. •

Worked on the process of Retargeting increasing the overall revenue of the company without any extra spend and worked cross-functionally with the Operations team & other bootcamp managers to implement the same. • Worked on listing the Masterclasses on various event listing platforms to bring targeted leads at zero spend. • Worked with the tech team and made various landing pages as well as website pages for The Future University website.

• Worked on Trading kits distribution all over the country . Streamlining the supply chain for efficient kit distribution. Collaboration with suppliers and transportation partners. Managing the data for effective cost analysis . • Worked on the Warren - AI (latest financial advisory product) of the company . My work as a product manager was management , marketing and increasing the subscription rate of Warren AI

Tool used (Development tools - H/w, S/w) : Canva , MS Excel , Adobe Premiere Pro , Zoom , Livekit , webflow, Razorpay

Objectives of the project : Revenue Generation

Major Learning Outcomes : Creative Marketing , Video Editing , Data Analysis , Business analysis and Webinar Sales

Details of Papers/patents : Submitted Project Report in the PSMS

Brief Description of working environment, expectations from the company : Best Working Environment

Academic courses relevant to the project : Data Mining

Name: SHREYA JAIN .(2020A5PS2037P)

Student Write-up

PS-II Project Title: Advancing Educational Technology using Data Automation, UI/UX Redesign, and Innovative Feature Implementation

Short Summary of work done during PS-II : During my internship, I focused on enhancing online learning tools using technical skills like SQL and design software. I automated data tasks, analyzed five months of information, and redesigned websites for improved user experiences. I also introduced new features to enhance user interaction. Collaborating with teams, I learned project management skills and how to use design tools effectively, making live session more accessible and refining my technical skills and problem-solving abilities along the way.

Tool used (Development tools - H/w, S/w) : SQL , Figma , PowerBI , Matplotlib

Objectives of the project : The objective of the project was to enhance user experiences and streamline functionalities across educational platforms by implementing data automation, revamping UI/UX designs, and integrating innovative features. This aimed to optimize user engagement, improve data management efficiency, and create a more intuitive

Major Learning Outcomes : Technical Proficiency: Mastery in SQL, Figma, and Canva/Webflow tools for data automation, UI/UX design, and platform enhancement.

Project Management Skills: Efficient collaboration, Agile methodologies, and timely project execution.

User-Centric Design

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : working environment during my internship was dynamic and collaborative, fostering a culture of innovation and teamwork. There was a emphasis on learning and growth, encouraging individuals to explore new technologies and methodologies. The company set clear expectations, valuing both individual contributions and collective efforts towards project completion.

Academic courses relevant to the project : Computer Programing , Neural Network, Probability and statistics

Name: JATIN KUMAR SAXENA(2020ABPS0640P)

Student Write-up

PS-II Project Title: Digital Markerting Intern

Short Summary of work done during PS-II : In my internship, I took on diverse responsibilities, managing Twitter and Quora ads for strategic scaling, creating engaging landing pages with Webflow, and designing user interfaces for the website and app. Collaborating seamlessly with various teams, I enhanced operational efficiency, streamlined processes, fostered positive community engagement, and contributed to increased sales enablement. Acquiring versatile technical proficiency and showcasing strategic marketing impact, my efforts contributed to the overall success of the organization, positioning it for continued adaptability and innovation in the dynamic business landscape.

Tool used (Development tools - H/w, S/w) : Node JS, SQL, pgAdmin, Webflow

Objectives of the project : To scale the company's ads running on comparatively newer platforms, Twitter & Quora.

Major Learning Outcomes : Technical skills in Next.js, SQL, Webflow, MS Excel, and pgAdmin.
Cultivated a continuous learning culture.
Honed strategic marketing insights
Adapted in a rapidly evolving digital landscape

Details of Papers/patents : No Papers or patents

Brief Description of working environment, expectations from the company : The working environment at the company was dynamic and collaborative, fostering a culture of innovation and continuous learning. Expectations were high, demanding a proactive approach to tasks and a commitment to delivering high-quality results. The company valued not just individual contributions but also emphasised effective collaboration across departments. The pace of work was fast, requiring adaptability to navigate challenges and contribute to multifaceted projects. Clear communication and active engagement with diverse teams were essential, reflecting the company's commitment to cross-functional collaboration.

Academic courses relevant to the project : Computer Programming, Design Thinking & Innovation, Creating & Leading Entrepreneurial Organisations

PS-II Station : eShipz.com (LogIQ Labs Pvt. Ltd.) , Bengaluru

Faculty

Name: Suparna Chakraborty

Student

Name: AMOGH RAI(2020AAPS1029G)

Student Write-up

PS-II Project Title: Design and development of Image Processing Interface for eShipz App and Carrier Integrations of Shipment APIs

Short Summary of work done during PS-II : Worked on developing an image processing interface with the help of AWS Rekognition to optimise inventory management. Also worked on the carrier integration of shipment APIs to streamline and automate the process of managing and

fulfilling shipments. Integration with carrier APIs allows businesses to fetch real-time shipping rates based on package dimensions, weight, and destination. This ensures accurate cost calculations for shipping services.

Tool used (Development tools - H/w, S/w) : Python,Postman,Github,AWS Rekognition

Objectives of the project : Streamline and automate the process of managing and fulfilling shipments within a business and e-commerce platform.

Major Learning Outcomes : API Integration

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Despite being a remote internship, the team at eShipz ensured that I had very productive learning experience. Founders and mentor were very kind, and spent time with me to explain what was required. The company had very reasonable expectations and gave sufficient time to complete the work given. Overall a great experience.

Academic courses relevant to the project : Object Oriented Programming, Computer Programming

Name: HARI GOVIND B(2020AAPS1772H)

Student Write-up

PS-II Project Title: Share of Business Analysis, Carbon Credits, Return to Origin Prediction Model

Short Summary of work done during PS-II : Conducted Share of Business Analysis to optimize resource allocation and enhance decision-making at eShipz. Implemented a comprehensive system for tracking and managing carbon credits in alignment with sustainability goals. Developed

a robust RTO Predictive Model, anticipating and addressing Return to Origin instances to enhance logistics efficiency. These projects collectively fortified eShipz's operational capabilities, strategic decision-making, and sustainability practices, contributing to a more efficient and environmentally responsible logistics framework. The implementation of data-driven insights and predictive modeling is poised to drive continued improvements in operational efficiency and sustainability efforts across the organization.

Tool used (Development tools - H/w, S/w) : Google Colab, VsCode, Jupyter Notebook, Bash, SwaggerUI, GitHub, Git

Objectives of the project : The Share of Business Analysis project aimed to optimize resource allocation and enhance decision-making within eShipz. The Carbon Credits Project focused on implementing a system to effectively track and manage carbon credits, aligning with the company's commitment to sustainability. In the RTO Predictive Model project, the objective was to develop a predictive model to anticipate and address Return to Origin instances, ultimately improving overall logistics efficiency.

Major Learning Outcomes : During my tenure at eShipz, I undertook projects that significantly honed my skills in data analysis, regression modeling, and API development. The GHG emissions calculator project enhanced my ability to address environmental concerns through data-driven

Details of Papers/patents : No patents. Only the final PS2 report.

Brief Description of working environment, expectations from the company : I had my work done remotely as the rest of the team, we connected via google meets and regular sync ups to get updated with the work. Overall the work environment is very pleasant and my mentor was a really helpful and supportive manager. The work pressure is easy to moderate and there is no strict time to work, you can work anytime of the day as long as the work is completed.

Academic courses relevant to the project : Machine Learning, Statistics, CSF111

PS-II Station : Feedback Advisory Services Private Limited , Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: CHETAN KESHAV GHODKE(2020A3PS1495G)

Student Write-up

PS-II Project Title: Multiple Consulting Projects

Short Summary of work done during PS-II : Mostly ad-hoc tasks with deliverables being decks and spreadsheets, but also significant contributions to ~3 larger projects (1 market study, 1 GTM strategy, 1 investment target due diligence)

Tool used (Development tools - H/w, S/w) : Word, PPT, Factiva, GlobalData, EMIS, Trademap

Objectives of the project : Contributing to the consulting projects in various capacities

Major Learning Outcomes : Market research and due diligence

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Good environment, fully WFO at the start but 1-2 days per week WFH is doable after the first month.

Academic courses relevant to the project : BAAV, FinMan, FUFA

PS-II Station : Finquant Technologies Pvt. Ltd. , Lucknow

Faculty

Name: Uma Nagarajan

Student

Name: HARSH SINGH(2020A3PS1257G)

Student Write-up

PS-II Project Title: Software Developer

Short Summary of work done during PS-II : The main objective of PS-2 was to develop softwares and applications for company use. Different teams worked on different projects such as internal tools for the company website, employee management tools, data visualisation tools etc. There were also other applications developed by our batch of interns such as an e-commerce app, an MSME loan app etc. Given the flat structure of the company and small number of employees, we were occasionally assigned other work such as financial analysis through Excel, proofreading etc.

Tool used (Development tools - H/w, S/w) : Visual Studio, SQL Server Management Studio, Azure Cloud, MS Excel

Objectives of the project : Develop different softwares and applications for company use

Major Learning Outcomes : Software Development, Database Management, Financial Analysis

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working hours were 9-6, Monday through Saturday with occasional overtime . Due to the leanly staffed nature of the company, interns were expected to be self sufficient and little guidance was provided

from company employees who had their own work to focus on. The Managing Director had very high expectations regarding the quality of work from interns operating on their own, and we frequently had to work on extremely tight deadlines. There was no clear communication structure and feedback was difficult to come by. In all, the company environment is a challenging one to work and learn in.

Academic courses relevant to the project : OOP, DBMS, DSA, Software Development For Portable Devices

Name: HRISHEEKESH S.(2020A4PS0470P)

Student Write-up

PS-II Project Title: Software Development

Short Summary of work done during PS-II : During the project, I focused on comprehensive web and Android development, gaining proficiency in HTML, CSS, and JavaScript, and mastering frameworks for both frontend and backend efficiency. I extended my expertise to Android app development using Java and Android Studio, understanding key components and lifecycles. The project deepened my understanding of the C# language, particularly in backend development, and honed my skills in SQL for effective database management. Exploring diverse database types provided a valuable overview. Additionally, I delved into frameworks and APIs, enhancing the functionality of web applications and enabling seamless external service integration. The outcomes reflect a well-rounded skill set, covering web and Android development, programming languages, and database management, positioning me with a comprehensive understanding of software development.

Tool used (Development tools - H/w, S/w) : Visual Studio, SQL Server Management Studio, Android Studio

Objectives of the project : The project aims to enhance the overall functionality of the company's website by enabling users to effortlessly update their profiles and establishing an effective admin

portal for comprehensive oversight. An automated mailing system is implemented to streamline communication following user profile verification. Additionally, a dedicated portal is created for users to register and document their daily schemes. The second part of the project focuses on developing a user-friendly e-commerce platform, primarily catering to the sale and purchase of pre-owned clothing items, with a special emphasis on wedding attire. The e-commerce platform is seamlessly extended to an Android app, ensuring broader accessibility. The projects prioritize security, sustainability, and scalability to deliver an optimal user experience.

Major Learning Outcomes : Throughout the project, I achieved proficiency in web development, mastering HTML, CSS, and JavaScript, and delving into frameworks for enhanced functionality. Additionally, I gained valuable insights into Android app development using Java and Android St

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Within the company, I navigated a challenging and, at most of the times, highly toxic working environment that demanded adaptability and a proactive mindset. The team displayed diverse skill levels, exposing a collective proficiency that often fell short of desired standards. Navigating this landscape required a self-driven initiative to bridge skill gaps and find collaborative solutions. The director's short-tempered communication style underscored urgency and contributed to a high-pressure atmosphere, further complicated by limited communication clarity. Task execution often lacked a structured process, prompting adjustments towards project completion. While guidance was mostly or almost never available, my approach involved proactively seeking solutions and fostering a resourceful work ethic. The company's infrastructure was notably below par, posing additional challenges. Eventually, a transition to the technical support department occurred, a shift not initially outlined in the PSMS. The predominant mode of operation involved working hours from 9:30 AM to 6:00 PM, Monday to Saturday.

Academic courses relevant to the project : DSA, OOP, Database Management System

Name: ASHISH ANAND(2020A4PS1334G)

Student Write-up

PS-II Project Title: Admin Portal and Websites / MSME Project

Short Summary of work done during PS-II : During the project, I focused on comprehensive web and Android development, gaining proficiency in HTML, CSS, and JavaScript, and mastering frameworks for both frontend and backend efficiency. I extended my expertise to Android app development using Java and Android Studio, understanding key components and lifecycles. The project deepened my understanding of the C# language, particularly in backend development, and honed my skills in SQL for effective database management. Exploring diverse database types provided a valuable overview. Additionally, I delved into frameworks and APIs, enhancing the functionality of web applications and enabling seamless external service integration. The outcomes reflect a well-rounded skill set, covering web and Android development, programming languages, and database management, positioning me with a comprehensive understanding of software development.

Tool used (Development tools - H/w, S/w) : Visual Studio, SQL Server Management Studio, Android Studio, Yahoo finance, Moneycontrol

Objectives of the project : The project aims to enhance the overall functionality of the company's website by enabling users to effortlessly update their profiles and establishing an effective admin portal for comprehensive oversight. An automated mailing system is implemented to streamline communication following user profile verification. Additionally, a dedicated portal is created for users to register and document their daily schemes. The next part of the project was to create a balance sheet simulator wherein the algorithm calculates the required financial ratios to assess the financial health of the company from its income statements/PL Statements.

Major Learning Outcomes : Throughout the project, I achieved proficiency in web development, mastering HTML, CSS, and JavaScript, and delving into frameworks for enhanced functionality. Database management skills were honed through hands-on experience with SQL, providing an overvi

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Within the company, I navigated a challenging and, at most of the times, toxic working environment that demanded adaptability and a proactive mindset. Navigating this landscape required a self-driven initiative to bridge skill gaps and find collaborative solutions. But the team was determined enough to make it tough. The director's short-tempered communication style underscored urgency and contributed to a high-pressure atmosphere, further complicated by limited communication clarity. Task execution often lacked a structured process, prompting adjustments towards project completion. While guidance was decent from our mentor, my team's approach involved proactively seeking solutions and fostering a resourceful work ethic. The company's infrastructure was notably below par, posing additional challenges. Eventually, a transition to the technical support department occurred, a shift not initially outlined in the PSMS.

Academic courses relevant to the project : Business Communication, OOP, DBMS

Name: GRACY BRAR .(2020A5PS2030P)

Student Write-up

PS-II Project Title: App development

Short Summary of work done during PS-II : An application for thrift clothing was created with both user and admin portals. The user portal had options for both buying and selling clothes. Admin portal had information about all the orders, products, users and transactions.

Tool used (Development tools - H/w, S/w) : Visual Studio, Android Studio and SQL Server.

Objectives of the project : Development of an app

Major Learning Outcomes : Working with visual studio and android studio software.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The work environment was mostly not professional and healthy. No formal team meets were held.

Academic courses relevant to the project : Basic coding knowledge.

PS-II Station : Fix Health , Bengaluru

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: ABHEESH BHARDWAJ(2019B1A41117G)

Student Write-up

PS-II Project Title: Intern

Short Summary of work done during PS-II : The most traumatic 4 months of my bits journey. I would not recommend this to anyone.

Tool used (Development tools - H/w, S/w) : Google sheet, airtable, notion

Objectives of the project : Growth

Major Learning Outcomes : Sales, strategy

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : Good people, very unskilled tasks to do which will make you question yourself and create room for self doubt. No work life balance you might need to work 7 days in a week and travel to sites every weekend.

Academic courses relevant to the project : NA

Name: YASH MAHESHWARI .(2020A5PS2018P)

Student Write-up

PS-II Project Title: International Business Development

Short Summary of work done during PS-II : I have been assigned on the UK project and have been working under the observation of Ashutosh. I am working with the growth team in the company to develop strategies for expanding Fix Health's presence in the UK market. This involves conducting market research, analysing data, making sure that consultations happen on time, and opportunities for growth of the company. Working closely with Ashutosh and the rest of the growth team has allowed me to gain valuable insights and contribute to the overall success of the project. Connecting with patients from the UK and other countries, understanding their problems, and making sure that the consultation is happening on time and efficiently has been a crucial aspect of my role. Additionally, I have been actively involved in developing marketing strategies tailored specifically to the UK market, ensuring that our messaging resonates with the target audience and drives engagement.

Tool used (Development tools - H/w, S/w) : Leadsquared, Tidio chatbot, Airtable, Spreadsheet, Excel, Looker Studio, Tellephant, Call Hippo, Stripe, Fix Health (OPS App), Microsoft Clarity

Objectives of the project : Increase the presene of the organisation mainly in UK.

Major Learning Outcomes : Working on communication skills

Experiencing teamwork and inter-departmental coordination.

Enhancing team communication to fill the gaps that can hamper the workflow

Improving presentation skills
Handling all things for international patients.
Understandi

Details of Papers/patents : Research Paper:

Telerehabilitation for Musculoskeletal Disorders During the COVID-19 Pandemic.
International Journal of Physiotherapy and Research.

Type of Article: Original Research

Volume 9; Issue 1 (February 2021)

Page No.: 3765-3772

DOI: <https://dx>

Brief Description of working environment, expectations from the company : All the members at Fix Health are very supportive and helpful, both professionally and personally. It is a startup, so I was not treated as an intern but as a core and key member of the team. We have to work in a fast-paced environment, and there are good things to learn and apply to see growth. Working hours can vary, as I mentioned that it is a startup, and timing are flexible.

Academic courses relevant to the project : Business Communication, Organizational Psychology

PS-II Station : FlexiLoans Technologies Pvt. Ltd. , Mumbai

Faculty

Name: Swarna Chaudhary

Student

Name: TANMAY SINGHAL .(2019B5A40779P)

Student Write-up

PS-II Project Title: Data science

Short Summary of work done during PS-II : Financial data analysis on various cohorts

Tool used (Development tools - H/w, S/w) : Spyder- python, MySQL, excel

Objectives of the project : Data analysis

Major Learning Outcomes : Python, sql, data analysis, excel

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Great company, great team.

Academic courses relevant to the project : Data science minor

Name: SATYAM JHA(2020A4PS1631G)

Student Write-up

PS-II Project Title: CIBIL + Banking Model Production Code

Short Summary of work done during PS-II : My work mostly involved optimisations and deployment of production code for the API of different ML models. Aside from that there were several data requests that we had to handle which involved fetching data from different databases.

Tool used (Development tools - H/w, S/w) : Anaconda, Postman, Excel, DBeaver

Objectives of the project : Making the production code for risk grade prediction API

Major Learning Outcomes : Learnt about API and ML

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The data science team was great. Everyone was friendly, helpful and knowledgeable except the senior manager of DS who had little experience in Finance or Data Science. Aside from that, the workplace was great.

Academic courses relevant to the project : Machine Learning

PS-II Station : Flint , Bengaluru

Faculty

Name: SRINATH NAIDU

Student

Name: TIKESH VAISHNAV .(2020A7PS0014P)

Student Write-up

PS-II Project Title: Blockchain and Web3.0 Innovation: Transforming Finance and Fintech with Flint Labs

Short Summary of work done during PS-II : During my Practice School-II at Flint Labs, I spearheaded the development of LogX, a dynamic aggregator for decentralized trading. This user-friendly tool empowers individuals by providing real-time comparisons of prices and fees across multiple platforms, enhancing transparency in decision-making. Complementing LogX, Eddy Finance simplifies token swaps through the Zetachain solution, fostering liquidity and user

convenience. At the core of our work is ZetaChain, a foundational public blockchain enabling omnichain capabilities and cross-blockchain messaging. As a frontend engineer, I immersed myself in Solidity for smart contract development, gaining hands-on experience in building a product from ideation to deployment. This journey deepened my understanding of JavaScript and frameworks like Next.js and Nest.js. Beyond technical skills, I delved into the broader blockchain industry, sparking a passion for technology and innovation. This project has not only equipped me with practical skills but also instilled management and leadership abilities as I served as a project lead. In essence, our work at Flint Labs represents the synergy of technology, innovation, and personal growth, showcasing the transformative potential of emerging technologies in reshaping finance and fintech for a more inclusive and innovative future.

Tool used (Development tools - H/w, S/w) : Node.js, Solidity, Next.js, Nest.js, Postgresql, Google Cloud Platform (GCP):

Objectives of the project : , our project's objective is to make decentralized finance more accessible, transparent, and user-friendly, ultimately contributing to a more inclusive and innovative financial future

Major Learning Outcomes : Frontend Engineering Experience, Learning Solidity for Smart Contracts, Building a Product from Scratch, Mastering JavaScript and Frameworks.

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The company fosters a positive environment, largely embracing a startup culture that adds an intriguing dynamic and creates ample opportunities for growth. The staff and mentors actively support learning and adapting to new concepts, making it easy for individuals working here to quickly feel comfortable.

Academic courses relevant to the project : COMPUTER PROGRAMMING, Data Structure and Algorithms, OOP, Database System, DAA,

PS-II Station : Flipkart - Planning Analysts , Bengaluru

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: NIPURN AGRAWAL .(2020A2PS1765P)

Student Write-up

PS-II Project Title: Recommendations for FBF supply and share improvement

Short Summary of work done during PS-II : During my internship at Flipkart, I actively contributed to the optimization of inventory management by calculating the Instock% for varying periods. This meticulous analysis allowed for a comprehensive understanding of the inventory dynamics over different time frames. During my internship tenure, I also developed and gained some valuable insights that I presented to my manager in terms of diagrams and maps. I also regularly updated the dashboard for sales and inventory. During BBD I also analyzed and compared sales with daily targets.

Tool used (Development tools - H/w, S/w) : Python, R, Excel, SQL

Objectives of the project : Analyzing various areas developing visual ideas to increase FBF share%

Major Learning Outcomes : My time as an intern has not only been about the tasks and responsibilities but also about building relationships. I have had the privilege of interacting with colleagues, mentors, and industry professionals, creating a network that will serve me well in

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Flipkart provides a very healthy and friendly working environment. It was a very enriching experience overall. The work timings are flexible and based on the amount of work assigned. It provides 2 days work from home as well.

Academic courses relevant to the project : N/A

PS-II Station : Flipkart - Planning Analysts , Bengaluru

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: JAIN DARSHAN NILESH(2020A2PS2526H)

Student Write-up

PS-II Project Title: Dynamic Buffer Management, In-Stock Aware Pricing Efficacy, Excess inventory generation RCA

Short Summary of work done during PS-II : I worked with grocery vertical of flipkart, in which my team was responsible for inventory planning. I worked on optimization of inventory ordering norms.

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : Optimization

Major Learning Outcomes : Supply chain theories, Planning of inventory

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Amazing.

Academic courses relevant to the project : Operations Research, Supply chain theories

PS-II Station : Flipkart Internet Pvt Ltd - Business Development , Bengaluru

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: AKASH CHANDRA .(2020A2PS1773P)

Student Write-up

PS-II Project Title: Simplifying Demand Planning and Data Analysis through Automation

Short Summary of work done during PS-II : 1. Demand Planning and Phasing during BAU and Festive Season 2023: Including BBD 2023. 2. Merchandising traffic channel planning. 3. Automation of Daily Phasing process. 4. Simplification of Data Analysis Process

Tool used (Development tools - H/w, S/w) : SQL, Python, MS Excel.

Objectives of the project : 1. Demand Planning: Planning and phasing of key business metrics(GMV, Traffic etc.) for BAU as well as festive season including Big Billion Days 2023. 2. Automating the repetitive daily tasks to enhance operational efficiency. 3. Generate strategic inferences out of sales and customer data in order to drive business growth for the company.

Major Learning Outcomes : E-Commerce Industry stands on a very important pillar that is : Customer Experience and Satisfaction. SSP Mantra: Any solution needs to solve either of Selection, Speed, Or Pricing.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Healthy work culture, supportive peers, great exposure in terms of interaction with senior leaders, close up view of entire business operations.

Academic courses relevant to the project : Nothing as such, general knowledge of how business works and what are the important key metrics would help. Generalistic outlook and willingness to continuously learn and excel is a great plus.

Name: VEDANT MUNJAL .(2020A4PS0509P)

Student Write-up

PS-II Project Title: Sales, Pricing & Category Management

Short Summary of work done during PS-II : Manage the sell side of the category, including pricing of all its products, merchandising them to improve visibility, negotiating better support terms with KAMs, maintaining a threshold profitability, exceeding sales and unit targets, scaling new product verticals, giving inputs towards the design of category landing page, onboarding brands, finding selection gaps, etc.

Tool used (Development tools - H/w, S/w) : Excel, SQL,

Objectives of the project : Manage the sales of the Makeup and Fragrances category in order to meet GMV and unit sales targets while achieving better margins of profitability. Introduce additional pricing levers. Merchandise products to boost visibility and design the category landing page.

Major Learning Outcomes : Utilising pricing levers to achieve sustainable growth

Managing and balancing the needs of several stakeholders like the BizFin, Buy side and central teams

SQL

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Hectic and hustler work environment, with great company culture that encourage you to do more and do better everyday. Steep learning curve giving you an exceptional amount of domain experience in very short time.

Academic courses relevant to the project : -

Name: AMAN VERMA(2020A4PS2326H)

Student Write-up

PS-II Project Title: New Brand Launches , Key Account Manager , New Service Launch

Short Summary of work done during PS-II : As a category Manager, task was to understand the business of top brands (which were not on Flipkart) by connecting with the Brand owners or Sales lead and proposing a workable plan after negotiating with them. After successfully onboarding them, work was to act as a Key Account Manager to track the data daily (sales and other internal data) and present the insights to the respective brands and teams so that the business can be scaled up.

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : Study the market of Electrical Hardware in India (E-comm) and try to onboard top brands on Flipkart. 1.) Launched more than 10 Brands and later worked as Key Account Manager for the launched Brands.

Major Learning Outcomes : 1.) Ways of growing business in e-commerce.
2.) Communicating with top brands CEOs or sales lead.
3.) How companies like Flipkart and Amazon work.
4.) Strategies used in Electrical hardware industry to grow the business.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Working environment is very chill, almost everyone is friendly and helpful , working hours are also flexible, not much hectic throughout the PS except for some weeks.

Academic courses relevant to the project : Supply Chain Management , POM , other management courses might be helpful too

Name: HRITHIK JAYASANKAR(2020AAPS1018G)

Student Write-up

PS-II Project Title: To unlock business growth in automative spares and batteries

Short Summary of work done during PS-II : During my internship in the batteries and spares division, I spearheaded initiatives in business development. This encompassed comprehensive market research, competitive analysis, and engaging with diverse sellers, including top Indian car and bike brands. I successfully increased product listings, collaborated with OEMs and OES suppliers, and implemented catalog enhancements to enrich the customer experience. The project not only achieved its objectives but also equipped me with valuable insights into the automotive aftermarket industry, strengthening my skills in market analysis, seller engagement, and strategic positioning.

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : Vertical creation, onboarding new sellers, enhancing customer experience

Major Learning Outcomes : Business ethics and communication, marketing strategies

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Within the batteries and spares division, the working environment was dynamic and collaborative, fostering innovation and continual learning. Cross-functional teams brought together diverse skills, creating a space where expertise and enthusiasm converged toward shared objectives. The atmosphere encouraged proactivity, and the company valued contributions that aligned with its commitment to excellence.

Expectations from the company were centered on comprehensive business development. This involved a nuanced understanding of market trends, competitive dynamics, and effective engagement with a variety of sellers, including top Indian car and bike brands. Adaptability was emphasized, encouraging creative problem-solving and strategic thinking. Clear communication channels facilitated efficient collaboration, ensuring that initiatives harmonized with overarching goals.

Proactivity and resourcefulness were valued traits, and the company set high expectations, encouraging interns to not only meet but exceed project goals. Feedback and mentorship were integral components of the working culture, nurturing an environment of continuous improvement. In summary, the batteries and spares division provided a stimulating and supportive environment. Expectations were rooted in delivering impactful contributions, fostering growth, and advancing the division's objectives, creating a dynamic and collaborative workplace.

Academic courses relevant to the project : NA

PS-II Station : Flipkart Internet Pvt Ltd - Corporate Strategy , Bengaluru

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: KANHA MISHRA(2020A4PS2131G)

Student Write-up

PS-II Project Title: Vertical Growth Analysis of BGMH & Large Business Units

Short Summary of work done during PS-II : Originally concentrated on refining product listing advertisements for Flipkart on platforms like Amazon and Alibaba, my role as a Corporate Strategy Intern evolved into analyzing Books, General Merchandise (BGM), and Home products. I developed suggestions aimed at improving revenue, user experience, delivery speed, and Gross Merchandise Value (GMV). Subsequently, the focus shifted to Large Electronics, exploring offline markets for BGM and Home items to generate innovative concepts. I conducted Average Selling Price (ASP) analyses for various segments such as TVs, Refrigerators, etc., identifying overlooked price brackets. I presented recommendations to the category team, supported by global competitor analysis and in-depth insights at the brand and model levels. The goal was to bolster Flipkart's market position and increase sales.

Tool used (Development tools - H/w, S/w) : SQL, MS Excel, Google Docs, Google Slides

Objectives of the project : To boost the GMV of BGMH and Large Electronics sold on Flipkart and increase revenue from ADs.

Major Learning Outcomes : Excel, SQL, Presentation and Data Crunching, Skills, Problem Understanding, Communication, Networking

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : In Flipkart's workplace, there's an undeniable and remarkable experience among its workforce. The environment is highly supportive, fostering genuine willingness among individuals to assist each other. The office is thoughtfully furnished with all necessary amenities for employees. Additionally, Flipkart provides numerous extra benefits that make employees feel welcomed and at ease within the team dynamics. It's undoubtedly a workplace that people eagerly anticipate being part of each morning.

Academic courses relevant to the project : NIL

PS-II Station : Flobiz , Bengaluru

Faculty

Name: Vineet Kumar Garg

Student

Name: RONIT CHANDNANI(2019B2A11097G)

Student Write-up

PS-II Project Title: Product Management - Monetisation

Short Summary of work done during PS-II : Launched key revenue driving features to FloBiz's major offering - myBillBook

Tool used (Development tools - H/w, S/w) : Amplitude, VWO, JIRA, Houseware, Figma

Objectives of the project : Improving ARPU, Renewals & New User Conversion for myBilBook

Major Learning Outcomes : PLM, Amplitude Analytics, A/B Testing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Complete ownership was given for all projects.

Academic courses relevant to the project : NA

PS-II Station : Futures First , Bengaluru

Faculty

Name: Gaurav Nagpal

Student

Name: SHIV SHAKTI PANDEY .(2020A1PS1479P)

Student Write-up

PS-II Project Title: Price Action Analyzer

Short Summary of work done during PS-II : created a web application to analyze the price action and derive alpha signals, also included a robust backtest engine for intraday market portfolios.

Tool used (Development tools - H/w, S/w) : python.

Objectives of the project : To derive alpha signals using dynamic time wrapping of price action time series

Major Learning Outcomes : python. trading. quantitative finance.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The environment was demanding. you need to work in odd hours with almost no work from home. focus more on understanding the market and concepts.

Academic courses relevant to the project : none

PS-II Station : Futures First Info Services Pvt Ltd. , Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: ANKIT ASHOK(2019B4A40452H)

Student Write-up

PS-II Project Title: Predictive Modelling of Financial Instruments

Short Summary of work done during PS-II : Primarily worked on developing mathematical and machine learning to model the movement of various fixed income derivatives, focusing on futures, to exploit market inefficiencies. Developed an understanding of the financial markets and various

macroeconomic data releases that affect the movement of these markets and combined this understanding with the development of the quantitative models to develop effective trading strategies, backtested these results and presented the findings and Proofs of Concept to the stakeholders.

Tool used (Development tools - H/w, S/w) : Python, Jupyter Notebook, Trading Technologies, Excel, Refinitiv Eikon

Objectives of the project : Model Development for Quantitative Trading

Major Learning Outcomes : Quant Research, Data Science Practices, Trading Techniques, Stochastic Modelling

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Friendly and helpful colleagues. Intellectually stimulating environment. You will be expected to initiate work on your own.

Academic courses relevant to the project : Computer Programming, DSA, Applied Statistical Methods, Optimization

Name: Atharv Chaba(2020A4PS1988H)

Student Write-up

PS-II Project Title: PREDICTIVE MODELLING OF FINANCIAL INSTRUMENTS

Short Summary of work done during PS-II : My main focus was on creating mathematics and machine learning models to predict the movement of different fixed income derivatives in order to take advantage of market inefficiencies. Acquired knowledge about financial markets and macroeconomic data releases that influence market movements. Utilised this knowledge to create

quantitative models for developing successful trading strategies. Tested the effectiveness of these strategies by conducting backtests.

Tool used (Development tools - H/w, S/w) : Python, Jupyter Notebook, Trading Technologies, Excel, Refinitiv Eikon

Objectives of the project : To implement quantitative models to predict the movement of financial contract

Major Learning Outcomes : Quant Research, Machine Learning, Stochastic Modelling, Algo Trading

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Friendly and helpful colleagues. Intellectually stimulating environment. You will be expected to initiate work on your own

Academic courses relevant to the project : SAPM, ML, FM

Name: MUDIT SRIVASTAV(2020A4PS2024H)

Student Write-up

PS-II Project Title: Predicting Short Term Interest Rates using Stochastic and Time Series Models

Short Summary of work done during PS-II : The internship started by learning about the basics of finance and trading, mainly about the Central Banks of different countries. After a month of this, we started working on the Vasicek model for predicting rates. Work included reading multiple research papers, understanding the math behind the whole model and then creating a Python code to make predictions. Similarly, we worked on various models like Cox-Ingersoll-Ross, Hull-

White, ARIMA and Quadratic Gaussian. Along with the models, we were also working on backtesting our predictions on historical data to see how our predictions would have worked in the market.

Tool used (Development tools - H/w, S/w) : Python

Objectives of the project : The objective of the project was to predict the pricing of different future contracts of Short term interest rates using multiple different mathematical models.

Major Learning Outcomes : Learnt about how markets move and the basics of central banks. Also got very thorough knowledge about different mathematical models.

Details of Papers/patents : An Overview of the Vasicek Short Rate Model - Nicholas Burgess

Brief Description of working environment, expectations from the company : Working environment was very nice. The mentors that the company allotted had very good knowledge of the sector.

Academic courses relevant to the project : Derivatives and Risk Management

Name: AMOL AGGARWAL .(2020A5PS2021P)

Student Write-up

PS-II Project Title: Interest Rate Models for Financial Markets

Short Summary of work done during PS-II : Futures First, at the forefront of intricate financial activities, particularly in interest rate modeling, provided an exceptional opportunity that seamlessly aligned with our academic pursuits within the BITS Pilani undergraduate program. My internship's primary focus centered on interest rate modeling, wherein we actively contributed to developing forecasting models. The experience included working on well-established models such as Vasicek, CIR, Hull-White, and the innovative AFNS models. Rigorous backtesting of

these models was meticulously conducted on various market products, affording us a profound understanding of their applicability and effectiveness in real-world financial scenarios. In addition to our work in interest rate modeling, the internship commenced with an insightful introduction to financial markets, money markets, and the functioning of central banks, including but not limited to the Federal Reserve (FED), European Central Bank (ECB), Bank of England (BOE), and Swiss National Bank (SNB). This foundational knowledge provided a holistic perspective on the broader financial landscape, enhancing our comprehension of the interconnected dynamics within the financial industry.

Tool used (Development tools - H/w, S/w) : Python, VS Code, Microsoft Excel

Objectives of the project : Development and Implementation of different Financial Models in Financial markets

Major Learning Outcomes : The major outcomes include:

1. Learning Python different libraries used in Financial Modelling
2. Understanding the ML Models used in forecasting along with Stochastic and Time Series Forecasting
3. Implementation & backtesting of these models in live mar

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : 1. The working environment at Futures First is highly collaborative providing a great opportunity to learn and making a great impact on overall professional growth.

2. The company has a top notch trading atmosphere, where they have their operations in multiple international exchanges.

3. You can feel the fast-paced nature of financial markets, from impact of global trends and news in the markets.

4. Overall everyone is very supportive in the company and the projects are very interesting for anyone who want to work in Financial markets space.

5. It has been truly amazing learning experience, from intricate details to working of financial markets. My overall experience has been much better than expected.

Academic courses relevant to the project : Derivatives to Risk Management, Machine Learning, Applied Statistical Methods

PS-II Station : Genpact , Bengaluru

Faculty

Name: Arindam Roy

Student

Name: PRATHA SHAH .(2020A3PS0758P)

Student Write-up

PS-II Project Title: Building a tensorflow optimisation model for a supply chain

Short Summary of work done during PS-II : The work mainly consisted of understanding the key features of various optimisers present in the tensorflow library and incorporating necessary changes and equations in the machine learning model so that the model can successfully converge to an optimal point after passing through the optimiser

Tool used (Development tools - H/w, S/w) : S/w- VS code and Jupyter notebook

Objectives of the project : Maximising the customer satisfaction level of all locations in the supply chain model

Major Learning Outcomes : Comprehensive understanding of working of optimisers while getting optimal solutions for a given data

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The employees were friendly and supportive. They guided us throughout the internship, giving us insights into different approaches that we can take for building our model. The manager and mentor were also very approachable and responded in timely manner making it easier for us to continue with our projects.

Academic courses relevant to the project : Machine Learning, Supply Chain Management, Optimisation

Name: TARUN VASHISHTHA .(2020A8PS1817P)

Student Write-up

PS-II Project Title: Enhance Businesses through advanced forecasting techniques

Short Summary of work done during PS-II : I worked on making a forecasting pipeline which gave the forecasted results and their plots along with MAPE values and by seeing MAPE values and plots we could easily see that which model is best suited for our dataset. For the 2nd project, I had to forecast the no. Of production lines and total number of labor hours required in a product line for a business operating in multiple sectors and having industries spread at different locations round the world using the real-world industry dataset provided to me.

Tool used (Development tools - H/w, S/w) : Jupyter Notebook, python, pandas, ARIMA, SARIMA, fbProphet, LSTM, N-Beats, t-BATS etc.

Objectives of the project : To give accurate forecasting results to solve business problems like stock surplus, over hiring, under hiring of labor etc.

Major Learning Outcomes : Learned to work on Python and pandas and learned to use various machine learning algorithms.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working environment was quite chill, there was not much work load, there were weeks where we didn't had much work to do. The problem I felt was that they could communicate us about the expectations more clearly and also what they need. And also they could explain us about the final goal more clearly.

Academic courses relevant to the project : Machine learning

Name: MANN JAGDISH SHAH .(2020A8PS1825P)

Student Write-up

PS-II Project Title: Computer Vision

Short Summary of work done during PS-II : I was a part of the computer vision team. My work revolved around tasks like image captioning, visual question answering, entity extraction, image classification and layout analysis. I was supposed to either use existing datasets or create my own for model inference. Then, I documented all my observations from the inference and recommended further steps to my seniors.

Tool used (Development tools - H/w, S/w) : Company wide GPUs and CPUs, Azure, GCP, AWS, python libraries for machine learning (computer vision specific)

Objectives of the project : To explore vision language models

Major Learning Outcomes : Learnt a lot about vision language models especially the the architecture behind them.

Understood how to setup different models on servers, infer than and create reusable assets.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Great work environment overall. Everyone is supportive, always willing to help and imbibe knowledge into you.

Academic courses relevant to the project : Object oriented programming, Data structures and algorithms

PS-II Station : Glocol Networks (IOT and AI) , California

Faculty

Name: Pravin Yashwant Pawar

Student

Name: JAGRIT PAREEK .(2019B2A11024P)

Student Write-up

PS-II Project Title: IoT and AI

Short Summary of work done during PS-II : .

Tool used (Development tools - H/w, S/w) : Visual Studio Code, AWS, Jira, Wordpress, Canva

Objectives of the project : ..

Major Learning Outcomes : Vue.js, AWS, Hosting, GenAI

Details of Papers/patents : .

Brief Description of working environment, expectations from the company : Online/Remote work, Slow and understaffed

Academic courses relevant to the project : none

PS-II Station : Goodera Growth Strategy, Customer Experience (Business Analyst) , Bengaluru

Faculty

Name: Sandeep Kayastha

Student

Name: ADITYA AMIYA PANDA(2019B1A10910G)

Student Write-up

PS-II Project Title: Partnerships Team - Global Engagements & Solutions

Short Summary of work done during PS-II : I had the opportunity to work closely with the partnerships (go-to-markets section in particular) team at Goodera. Initially my work consisted of research on companies. Research was mostly on various aspects of volunteering take up by the company. The next step consisted of prospecting for possible clients in these companies to reach out, followed by actually reaching out to these clients. Also throughout the internship, I got to work closely on a product on volunteering being developed by the company, for which I also got to work with the Product team.

Tool used (Development tools - H/w, S/w) : MS Excel, Outreach, HubSpot

Objectives of the project : Growth in the partnerships and engagements domain

Major Learning Outcomes : Go-to-market strategy, Global engagements and outreach

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Great working environment and flexible working hours. Got to interact with a lot of people including some of the senior most. Everyone is extremely helpful and approachable. Working hours can be long and a bit hectic for some parts of the year.

Academic courses relevant to the project : Probability and Statistics

Name: SHAMITHA OBULU(2019B1A41554H)

Student Write-up

PS-II Project Title: Customer Success Management

Short Summary of work done during PS-II : Working as a Customer Success Management (CSM) intern at Goodera, my primary responsibility has been to leverage my soft skills and technical skills to help my team achieve client satisfaction and organize internal data more methodically.

Tool used (Development tools - H/w, S/w) : Google sheets, Hubspot

Objectives of the project : Help in growth and strategy of the global clients

Major Learning Outcomes : ● Learned more about client and the rules they follow.

- Business developments, Strategy workshops.
- How to work internally with different teams and timelines.
- Learnt a lot about the attention to detail and using various analytical tools to form inform

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Goodera has a flexible and positive work environment.

Academic courses relevant to the project : None

Name: RISHITA AGARWAL .(2019B2A40989P)

Student Write-up

PS-II Project Title: Business Analyst

Short Summary of work done during PS-II : I worked on establishing new collaborations with the IOR partners for the company along with handling daily logistics for the supply chain team at Goodera. Apart from that, I was also involved in generating multiple reports from the data of one year to gain more insights at the end of the year.

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : To conduct data analysis

Major Learning Outcomes : Better understanding of Supply chain

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment is really nice, the employees are extremely helpful and supportive. The company is flexible about WFH but they prefer employees working from the office instead of from home.

Academic courses relevant to the project : -

Name: MALANI NEEL AMIT .(2019B4A40717P)

Student Write-up

PS-II Project Title: Growth, Strategy

Short Summary of work done during PS-II : I was majorly responsible for maintaining the various products Goodera uses, like dashboards for clients, their internal and client-booking portal. Alongside it, I also was heavily involved in developing and launching new product features to increase efficiency.

Tool used (Development tools - H/w, S/w) : Google sheets, Jira, Zapier, Kissflow, Amplitude, AppScript, Wix

Objectives of the project : Ideating and launching new product features, Maintaining existing products

Major Learning Outcomes : Working across cross-functional teams efficiently alongside learning the various skills required to become a good product manager were some of my major learnings. As Goodera is a startup, and being in the product team, I got to interact with various teams

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The company and the manager are very chill and there isn't much pressure from the manager. As long as you do your assigned work you are good. The timings also are chill, as my day starts usually at 1 -8 PM(sometimes even longer but its quite chill).

Academic courses relevant to the project : -

Name: N KARTHIKEYA KOUSHIK(2019B5A40617G)

Student Write-up

PS-II Project Title: Enhancing Corporate Social Responsibility through Data-Driven Insights and Innovative Tools at Goodera

Short Summary of work done during PS-II : My Goodera internship wasn't just a checkbox on my resume, it was a hands-on learning adventure. I helped people connect and make a difference. With Hotjar, I saw how users navigated the site, so we could make it smoother. For volunteers, I built a helpful guide and even a personal code scanner app – things that made their lives easier and helped them track their impact. Inside Goodera, I helped build a system that connected teams and kept things running smoothly. Beyond the coding, I dug into data, finding patterns that showed how Goodera was helping people. This whole experience gave me new skills, new friends, and a fire in my belly to keep making a difference.

Tool used (Development tools - H/w, S/w) : Google Sheets, Looker Studio, Amplitude, Wix, Zapier, Document Studio, Hotjar, PRDs, Cross-Team Communication, Product Roadmap, Figma, Jira

Objectives of the project : Build out new features and products for our customers to improve User Experience using data driven Insights

Major Learning Outcomes : Google Sheets, Looker Studio, Amplitude, Wix, Zapier, Document Studio, Hotjar, PRDs, Cross-Team Communication, Product Roadmap, Figma, Jira

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The team was very supportive, the managers and my VP were extremely helpful, It was a very chill environment to work in, We were given projects of high ownership from the start. Overall got to learn quite a few things and at the same time it was fun

Academic courses relevant to the project : -

Name: AMAN KONAR(2020A1PS1984G)

Student Write-up

PS-II Project Title: No Project , Dailytasks

Short Summary of work done during PS-II : As a CSM intern , you will be part of a pod which is directly responsible for pulling revenue by pitching decks to clients and converting it to events through the means of client interactions , contributing to making pitch decks , handling loads of data on Google sheets and performing swift actions to retrieve data required as and when by the pod manager. Very much similar to consultancy work.

Tool used (Development tools - H/w, S/w) : Excel , Googlesheet , Zapier , Kissflow

Objectives of the project : Help with daily tasks as a customer success manager.

Major Learning Outcomes : Technical skills learnt : Excel , Zapier

Soft Skills learnt : client interaction

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very nice working environment, good work culture , flexible hours , Lot of Bitsians in the company so any kind of help is easily available

Academic courses relevant to the project : None

Name: ISHAN ABHAY YAGNIK(2020A3PS1756G)

Student Write-up

PS-II Project Title: Enhancing Customer Success: Optimizing Social Initiative Campaign Management at Goodera

Short Summary of work done during PS-II : As a Business Analyst Intern at Goodera, my focus was on transforming corporate social responsibility (CSR) experiences. Guided by Goodera's mission, I endeavored to enhance client satisfaction by introducing dynamic dashboards and streamlining operations through strategic automation. My commitment to innovation materialized in the creation of an AI-powered chatbot, simplifying event booking and elevating client engagement. In the realm of operational efficiency, I successfully automated manual processes, optimizing workflows to enhance overall productivity. This effort not only improved efficiency but also strategically positioned Goodera as an industry leader in technological innovation within the CSR domain. Client-centric partnerships were a cornerstone of my internship. Handling Publicis Sapient as a client, I introduced in-person events, pitched tailored campaigns, and created impactful decks. This not only expanded Goodera's service offerings but also contributed to revenue growth. The challenges faced, be it in dynamic client preferences or navigating the integration of new technologies, became stepping stones for personal and professional growth. The culmination of this internship is not just a reflection on the past but a compass pointing towards Goodera's future—a future marked by innovation, excellence, and sustained impact in the realm of CSR.

Tool used (Development tools - H/w, S/w) : Excel, Sheets, Looker Studios

Objectives of the project : Improve client experience at Goodera

Major Learning Outcomes : Data analysis and sales

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good work environment, respectful and friendly seniors

Academic courses relevant to the project : NA

Name: ANTASH MISRA .(2020A4PS1087P)

Student Write-up

PS-II Project Title: Business Analyst

Short Summary of work done during PS-II : Worked on maintaining trackers for multiple clients. Was involved in deck making as well as strategy meetings for future campaigns and to assess past performance.

Tool used (Development tools - H/w, S/w) : G-Suite

Objectives of the project : To support day to day operations in the CSM team.

Major Learning Outcomes : Gained proficiency in G-Suite.

Learned inner workings of project management in a mid range startup

Learned communication essentials with client facing opportunities

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Fantastic working environment, helpful managers and senior leadership, ample opportunity for learning, proper holidays as well as free weekends.

Academic courses relevant to the project : Supply Chain Management

Name: PUNEET MALL(2020A4PS1814G)

Student Write-up

PS-II Project Title: Product Management

Short Summary of work done during PS-II : My work was mainly aligned towards improving the success metrics of Goodera. For which we drove the adoption of ETP among clients. Improved efficiency of csms by tracking kpis

Tool used (Development tools - H/w, S/w) : Amplitude, google sheets, google docs, hotjar, hubspot, wix, kissflow, appscript

Objectives of the project : Improve success metrics

Major Learning Outcomes : Soft skills, time management, work life balance

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Working environment is pretty chill, my managers were bit seniors only so they were there to help me even with small tasks and issues.

Academic courses relevant to the project : Optimization

Name: GAIDHANI VEDANT RAVINDRA(2020A4PS1946G)

Student Write-up

PS-II Project Title: Experience & Logistics Team

Short Summary of work done during PS-II : The overall experience at Goodera was really amazing. I got to learn a lot of things in the span of 6 months. The work culture at Goodera is very friendly and encouraging. There is no such hierarchy here. I got to interact with new as well as senior employees and got to know about their experiences at Goodera. I learnt about corporate

culture, etiquettes and ethics. I got a good hold over applications like google slides, google docs and google sheets. I too got an opportunity to improve some of the soft skills like communication and pitching.

Tool used (Development tools - H/w, S/w) : Google slides, google sheets

Objectives of the project : To analyse the data of company.

Major Learning Outcomes : Corporate ethics, etiquettes

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working culture at Goodera is very friendly and amazing.

Academic courses relevant to the project : -

Name: CH SHESHA SAI SATWIK(A2020A4PS2271H)

Student Write-up

PS-II Project Title: KARMA FOOTPRINT: OUTREACH CAMPAIGN & KNOW YOUR KARMA DESIGN

Short Summary of work done during PS-II : I have worked on projects or assignments in different teams and have an overall understanding of the Company duties and collaborations. I have worked on the event / conference management for KARMA Summit held in the end of August at Bengaluru, hosted and organized by Goodera. I worked in the experience Global team next where I had to create events in the Virtual Volunteering App (VVAPP) for clients and maintain the Champions page. Then, I was pulled into a project which I had the privilege to be a part from the start to the end and the launch is being awaited(planned to launch by the end of Jan 2024 or mid Feb 2024). Other miscellaneous works like tracking LinkedIn Mentions and actions, one

papers on the context of demo call or meetings, 2024 conferences research around th US, proposal decks for clients or prospects,etc. In this whole journey of six months at Goodera, I learnt teamwork and collaborations, client meetings/interactions, improved my soft skills, learnt about Platforms/websites like HubSpot, Apollo, linkedIn Sales Navigator, Double the donation, about the Go-to-Market trends or strategies and most importantly office or professional ethics. Being my first on field job, I have performed to the fullest and equally been appreciated for my work at Goodera by my mentors and Managers.

Tool used (Development tools - H/w, S/w) : Figma, HubSpot, LinkedIn Sales Navigator, Apollo.io

Objectives of the project : To improve the client experience and for the client expansion in ways of campaigns, webinars & events, product launches, social media campaigns: go-to-market strategies

Major Learning Outcomes : Event organization & management, Project management

Details of Papers/patents : --

Brief Description of working environment, expectations from the company : Being in the Go-To-Market team, it was a privilege for me to collaborate with all other teams at Goodera and work closely with them. All the teams have their own importance and work efficiently to grow Goodera as a whole. The working environment is very friendly and work together to finish tasks. Though they were not strict with the interns/employees, it is important as a grown-up, that we work selflessly as we cannot expect to be spoon fed at this stage.

Academic courses relevant to the project : Management

PS-II Station : Gotham New York LLC , New York

Faculty

Name: Mahesh K Hamirwasia

Student

Name: AASTHA KUMARI(2019B2A21446H)

Student Write-up

PS-II Project Title: Quantity take off

Short Summary of work done during PS-II : The complete work revolved around taking data points on the construction.

Tool used (Development tools - H/w, S/w) : Bluebeam, Revit, Autocad, Excel

Objectives of the project : Learning the construction planning

Major Learning Outcomes : Hands on learning of- Bluebeam, revit

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Quantity take off for the different construction materials involved

Academic courses relevant to the project : Surveying, DRC, DSC

Name: DEEPTI SHEORAN(2019B2A21541H)

Student Write-up

PS-II Project Title: OPTIMIZING CONSTRUCTION TAKEOFF PROCESSES WITH BLUEBEAM REVU: A COMPREHENSIVE ANALYSIS

Short Summary of work done during PS-II : We learned to read architectural drawings. Take quantity takeoff and foundation takeoffs, to further use them for cost estimation of the project.

Tool used (Development tools - H/w, S/w) : Bluebeam Revu, Revit, Excel

Objectives of the project : The primary objectives of this project were rooted in gaining a profound understanding of architectural and foundation takeoffs. We aspired to master the intricacies of these vital components of the construction industry. To accomplish this, we harnessed the capabilities of Bluebeam Revu, a software solution renowned for its versatility in interpreting, measuring, and analysing architectural drawings and construction plans.

Major Learning Outcomes : Cost Estimation, Quantity takeoff, Bluebeam Revu, Revit - 3D modelling, Reading Architectural plans

Details of Papers/patents : No papers

Brief Description of working environment, expectations from the company : WFH role, One or two meetings every week, one week to submit the work assigned

Academic courses relevant to the project : Foundation Engineering, Construction, planning and technology

Name: ARSH RAJ(2020A2PS2477H)

Student Write-up

PS-II Project Title: OPTIMIZING CONSTRUCTION TAKEOFF PROCESSES

Short Summary of work done during PS-II : This project, rooted in a quest for profound knowledge, focused on mastering architectural and foundation takeoffs, pivotal aspects of the construction industry. Leveraging Bluebeam Revu, a versatile software, we delved into interpreting, measuring, and analyzing architectural drawings and construction plans. The scope extended to interpreting drawings, calculating interior and exterior spaces, and quantifying construction elements with precision. Bluebeam Revu emerged as our digital toolkit, facilitating navigation through intricate drawings, annotation of critical details, and ensuring accurate measurements. This holistic endeavor, conducted at Gotham New York LLC, not only showcased expertise in Bluebeam proficiency and quantification skills but also highlighted real-world applications, contributing to cost estimation, project planning, and resource optimization in the construction domain. The outcome is a testament to the practical skills acquired and applied in the dynamic realm of construction management and pre-construction services.

Tool used (Development tools - H/w, S/w) : Bluebeam Revu, Revit

Objectives of the project : Apply Bluebeam Revu for precise architectural and foundation takeoffs, enhancing construction management and pre-construction services. The project showcases practical skills, contributing to cost estimation, project planning, and resource optimization in real-world construction scenarios at Gotham New York LLC.

Major Learning Outcomes : 1. Bluebeam Proficiency: Mastered the use of Bluebeam Revu for accurate architectural and foundation takeoffs.
2. Quantification Skills: Developed expertise in deciphering blueprints, quantifying interior and exterior spaces, and determining diverse construction

Details of Papers/patents : academic databases like IEEE Xplore, Google Scholar, or patent databases such as the United States Patent and Trademark Office (USPTO) for relevant literature and patents.

Brief Description of working environment, expectations from the company : Very convenient, work from home and 4 days/week work.

Academic courses relevant to the project : CE F242-Construction, Planning and Tech

PS-II Station : Grasim Industries Ltd. , Nagda

Faculty

Name: Arun Maity

Student

Name: RISHAB MANOJ SINHA .(2020A1PS1716P)

Student Write-up

PS-II Project Title: Reduction of waste fiber

Short Summary of work done during PS-II : -

Tool used (Development tools - H/w, S/w) : Excel, power Bi

Objectives of the project : Reduce wastage

Major Learning Outcomes : -

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : Pdp2, heat transfer

PS-II Station : Grow Simplee - Product Management , Bengaluru

Faculty

Name: Arindam Roy

Student

Name: NIKHIL KUMAR GUPTA(2019B2A41562H)

Student Write-up

PS-II Project Title: Product Management

Short Summary of work done during PS-II : Building products from scratch and taking them from the ideation phase to the launch phase.

Tool used (Development tools - H/w, S/w) : Figma, sql, notion, whimsical, postman, metabase

Objectives of the project : Product Management

Major Learning Outcomes : Product Management

Details of Papers/patents :

Brief Description of working environment, expectations from the company : The working culture is amazing. The entire team is young and energetic.

Academic courses relevant to the project :

PS-II Station : Growth Jockey Pvt. Ltd , Gurugram

Faculty

Name: Anjani Srikanth Koka

Student

Name: ARYAN RITESH NIGAM(2019B5A41039G)

Student Write-up

PS-II Project Title: Data Analytics

Short Summary of work done during PS-II : I was in-charge of running ad campaigns on Amazon and Flipkart and creating interactive dashboards through API integration and data visualisation on google sheets. Towards the latter half, I was involved in the productization (under data analytics and data science) of two products. The first was a data gathering and insight generation software catered to performance marketing and digital advertising which worked on the basis on prediction modeling and automatic data gathering from more than 7 sources. The second one was about predicting user behaviour on the basis of their search pattern (related to SEO as well).

Tool used (Development tools - H/w, S/w) : Google Sheets, Meta Business Suite, Google Ads Studio, Google Analytics 4, Amazon Seller Central, Flipkart Seller Central, Metricool, Looker Studio, Zoho CRM

Objectives of the project : Data analytics in improving digital marketing campaigns

Major Learning Outcomes : I learned how to use different Ads Studios and create interactive dashboards, Productization, Project Management Strategies and Data analytics

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : Friendly environment, very conducive for learning new things, good mentorship, somewhat flexible work timings, no WFH

Academic courses relevant to the project : Digital Marketing, Data Analytics, Data Science

Name: PRIYAM VERMA .(2020A2PS1776P)

Student Write-up

PS-II Project Title: Full Stack Web Development Internship at Growth Jockey

Short Summary of work done during PS-II : At Growth Jockey, I started as a Frontend Web Developer by learning HTML, CSS and JavaScript. Worked on projects like Sleepyhug, Livpure and built their homepages. Then I was introduced to the backend and worked on an in-house project named Intellsys which was an organizational level data visualizer. Full stack web development was what was the outcome of my internship and also things like SQL, Data Analysis, Data interpretation are what I learnt. Overall I was given some time to learn skills on the fly and implement them on the go in the projects I worked on. If you want projects that you can proudly say that you built, Growth Jockey can help you achieve that.

Tool used (Development tools - H/w, S/w) : S/w - Postman, Visual Studio Code, DBeaver, Google Chrome, Notion

Objectives of the project : To implement web development skills for developing webpages and products for clients

Major Learning Outcomes : Implementation of React.js in real world web development projects and use of Redux for creating full stack applications

Details of Papers/patents : Intellsys - A platform to derive and make sense of raw data of the clients we handle

Brief Description of working environment, expectations from the company : The working environment at Growth Jockey is decent. There are occasional events that help relieve out the stress. Being a startup, expect some workload here. The people here are nice and helpful. Also the company is flexible enough to provide employees with the space they need. The company has a nice overall vibe which is good for growth. If you want to quickly learn new skills on the go, Growth Jockey is for. If you are looking to use your pre-learned skills that don't match the company's required ones, maybe you could skip this one.

Academic courses relevant to the project : BDMS, DSA, OOP

Name: DARSH MENON(2020A4PS0771G)

Student Write-up

PS-II Project Title: Making Website for Clients

Short Summary of work done during PS-II : I've played a pivotal role in diverse projects. For the SleepyHug client on the Shopify platform, I created pages, including Category, Product, Warranty, Bulk Order, Tech, and About Us. Additionally, I contributed to the Livpure project, where I developed pages for over 20 cities, integrated them into the website, and implemented numerous other enhancements to improve the Livpure website. Another significant achievement was leading the extensive rebranding of Indiabulls to Sammaan Capital, involving a comprehensive overhaul of 130+ pages across the website, with 3500+ modifications in logos, text, and color schemes, and maintained all changes in an Excel sheet.

Tool used (Development tools - H/w, S/w) : HTML ,CSS ,JavaScript, VDI , PHP, Shopify and shopify liquid

Objectives of the project : Front-End Web Development: Creating Websites for different clients

Major Learning Outcomes : Throughout the internship, my focus areas

encompassed HTML, CSS, JavaScript, Shopify, Shopify Liquid, and PHP. The initial learning phase allowed me to establish a solid foundation in web development, paving the way for practical projects that involved th

Details of Papers/patents : None

Brief Description of working environment, expectations from the company :

Working environment was good with flexible in and out time, offering a balanced work-life structure. The company provided a supportive atmosphere with a two-day off policy, contributing to a healthy work-life balance. I thoroughly enjoyed my time here, appreciating the camaraderie and mutual assistance that defined our interactions. The company's commitment to fostering a welcoming and accommodating environment significantly contributed to my overall job satisfaction. My experience was marked by the harmonious blend of a flexible schedule and a supportive team, creating an atmosphere conducive to productivity and professional growth. I look forward to future opportunities that align with these positive work dynamics

Academic courses relevant to the project : Computer Programming

Name: JAYANT GOSWAMI .(2020A4PS1884P)

Student Write-up

PS-II Project Title: Business Development

Short Summary of work done during PS-II : My responsibilities encompassed comprehensive market analysis, trend identification through competitor analysis and technological research, and engaging in in-depth sessions with clients to understand their unique challenges and objectives. Crafting tailored growth strategies, including marketing plans and technology solutions, was a core part of my role, alongside overseeing their implementation. Emphasizing a commitment to continuous learning, I ensured our strategies remained current and future-proof by staying updated on the latest developments in growth marketing and technology.

Tool used (Development tools - H/w, S/w) : Google Suite, SEMrush, Miro, Canva, Zoho CRM, Hunter.io, clearbit, Apollo.io

Objectives of the project : Setting up newly formed Client Research and Development Team. Formulating Strategy for client acquisition and getting new clients across various business verticals.

Major Learning Outcomes : In my PS-II, I gained practical insights into market analysis, client needs assessment, and strategy development. I learned to translate theoretical knowledge into real-world strategies, crafting tailored solutions by understanding market trends and client

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The working environment in the Client Research & Development Team within Business Development embodies a culture of innovation, collaboration, and forward-thinking. It's a dynamic space where cutting-edge research meets practical application, fostering an atmosphere of constant learning and adaptation. The company expects its team members to bring a blend of creativity and analytical rigor, enabling them to navigate complex market landscapes, understand diverse client needs, and craft innovative strategies that drive growth.

Academic courses relevant to the project : None

Name: ANUPAM MANAS(2020A4PS2347H)

Student Write-up

PS-II Project Title: Growth Jockey and Letscrap

Short Summary of work done during PS-II : Letscrap: Work Done: Advanced Scraping Features: Successfully developed and implemented advanced scraping features to enhance

Letscrap's data extraction capabilities. User Interface Redesign: Led a redesign initiative, improving the user interface and overall user experience, resulting in increased user satisfaction. Market Positioning: Conducted thorough market research, analyzed competitor offerings, and strategically positioned Letscrap as a leading solution in the web scraping tools market. Integration Opportunities: Explored and implemented integrations with other tools and platforms to expand Letscrap's functionality and appeal. Growth Jockey: Work Done: Feature Diversification: Successfully introduced new features and modules to diversify the functionality of Growth Jockey, attracting a broader user base. Monetization Strategy: Developed and implemented effective monetization strategies, optimizing revenue streams while providing value to users. Strategic Partnerships: Identified and established strategic partnerships, contributing to the growth and success of Growth Jockey. User Feedback Integration: Incorporated user feedback into the development process, addressing pain points and continuously improving user satisfaction.

Tool used (Development tools - H/w, S/w) : Notion, excel, sql, android studio, figma

Objectives of the project : Letscrap Objectives: Enhance Scraping Capabilities: Improve and expand the data scraping capabilities of Letscrap to meet the evolving needs of users. User Acquisition and Retention: Develop strategies to attract new users and retain existing ones through feature enhancements and user engagement initiatives. Competitive Positioning: Analyze competitors in the web scraping tools market and position Letscrap as a leading solution through innovation and differentiation. Scope: User Interface (UI) Improvements: Work on UI/UX enhancements to make Letscrap more user-friendly and intuitive. Data Security: Ensure robust security measures are in place to protect user data and comply with privacy regulations. Integration Opportunities: Explore opportunities for integrations with other tools and platforms to enhance Letscrap's functionality. Deliverables: Scraping Module Upgrade: Document and oversee the implementation of advanced scraping features. UI/UX Redesign: Present a redesign plan for the user interface, addressing user feedback and improving overall usability. Marketing Campaigns: Develop marketing materials and campaigns to promote Letscrap's new features and capabilities. Growth Jockey Objectives: User Base Expansion: Implement strategies to grow the user base of Growth Jockey among target audiences. Monetization Strategies: Explore and implement effective monetization models for Growth Jockey, such as premium features or subscription plans. Strategic Partnerships: Identify and establish partnerships that can contribute to the growth and success of Growth Jockey. Scope: Feature Diversification: Introduce new

features or modules to diversify the functionality of Growth Jockey and appeal to a broader user base. User Feedback Integration: Incorporate user feedback into the development process to address pain points and improve user satisfaction. Revenue Tracking: Implement systems to track and analyze revenue streams, helping to optimize monetization strategies. Deliverables: Monetization Plan: Present a comprehensive plan for monetizing Growth Jockey while providing value to users. Feature Expansion Proposal: Document proposals for new features or modules to be added to Growth Jockey. Partnership Agreements: Facilitate the negotiation and implementation of strategic partnerships to drive growth.

Major Learning Outcomes : Letscrap:

Work Done:

Advanced Scraping Features: Successfully developed and implemented advanced scraping features to enhance Letscrap's data extraction capabilities.

User Interface Redesign: Led a redesign initiative, improving the user interface and o

Details of Papers/patents : Letscrap:

Research:

Market Research: Analyzing user needs, competitor offerings, and market trends in web scraping tools.

Technology Research: Staying abreast of advancements in data scraping technologies and methodologies.

New Product Development:

Scra

Brief Description of working environment, expectations from the company : In my current work environment, the focus is on hands-on experience and contributing to projects that hold significant value for the company. The emphasis on real-world applications has provided me with a tangible understanding of the industry and the chance to make meaningful contributions to the organization's objectives.

One notable aspect is the opportunity to work on projects that directly impact the company's goals, fostering a sense of purpose and professional growth. The collaborative nature of the environment encourages active participation and problem-solving, contributing to a dynamic and engaging work atmosphere.

However, one area that could be improved is the structured guidance for learning. While the emphasis on practical experience is beneficial, a more structured framework for professional development and skill enhancement would be valuable. A clearer roadmap for learning and skill acquisition could enhance the overall learning experience, ensuring that employees have a well-defined path for continuous improvement.

In summary, the work environment offers invaluable hands-on experience with projects of real consequence to the company. While this aspect is commendable, there is room for improvement in terms of providing a more structured approach to learning and skill development.

Academic courses relevant to the project : Supply Chain Management, financial management, derivatives and risk management

PS-II Station : Harness , Bengaluru

Faculty

Name: Y V K Ravi Kumar

Student

Name: SHASHWAT SHARMA(2019B3A70277G)

Student Write-up

PS-II Project Title: CLOUD COST MANAGEMENT

Short Summary of work done during PS-II : During my internship at Harness, I undertook a multifaceted role, significantly contributing to various projects aimed at enhancing the company's products and services. Following are my contributions to the CCM team: 1) Designed and implemented an end-to-end anomaly detection system for K8s Services, addressing a crucial

customer demand. 2) I changed the code logic for anomaly detection for AWS cloud cost at various levels of hierarchy i.e AWS account, service , Usage type. 3) Migrated the anomalies table in our timescale database 4) Implemented automatic slack and email notification alerts for K8s service anomalies 5) Implemented the code logic for sorting perspective grids by various parameters. 6) Implemented the code logic for supporting grid search in cost categories 7) Implemented GraphQL wrappers for cost categories 8) Made changes in CCM new hire guide for smooth onboarding for future team members 9) Made a detailed Atlassian doc for anomaly detection architecture and workings for helping other team members and future team members understand it 10) Worked on implementing different metrics including CPU/Memory alert thresholds, configuring k8s probes and implementing metrics endpoint for different CCM services which are written in different languages like Python, Go and Java to send it to Prometheus. 11) Implemented the logic for email notification for Azure and GCP anomalies 12) Implementation of RBAC (Resource Based Access Control) in our Product - RBAC, or Role-Based Access Control, is a security model that regulates access to harness resources based on the roles and responsibilities of users within an organization. RBAC defines who can do what within a system, ensuring that only authorized individuals can perform certain actions or access specific resources. 13) Wrote the automation test for various domain in CCM including Budgets, Anomalies, Recommendation and Cost categories 14) Implementation of forecasting logic for ccm use case: Made different GRAPH QL API wrapper for handling different cases in Forecasting API calls 15) Fixed the forecasting calculations for each time filter on overview screen and mapped the correct logic with correct time filters for forecasting 16) Read a lot of research papers for different models that can use for ccm use case in context of timeseries data for forecasting and performed calculations on ARIMA, SARIMAX, PROPHET and Neural networks model using harness historical data and decided to use PROPHET model in python as it gave the most accurate results 17) Made an enhancement for showing AWS account name along with account id in filters for customers

Tool used (Development tools - H/w, S/w) : IntelliJ IDEA, PyCharm, Postman, Robo3T, Db Visualizer, Github, Testing platforms - Ce-Dev, Pre QA, QA and Prod

Objectives of the project : There were no such objectives specified. Considering my skills and past experience in the field, I was allowed to contribute to the codebase and deploy my contributions to the production from the very first day. My work was the same as the other senior

developers in the team and hence was assigned sprint tasks, CFD and other enhancements raised by our customers in daily stand-up meetings.

Major Learning Outcomes : During my internship, I mastered essential frameworks such as Spring, Spring Boot, and Spring Batch, along with gaining proficiency in various other frameworks used in the Harness codebase. Additionally, I seized the opportunity to explore Go programming,

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : As a backend developer in Harness's cloud cost management team, the working environment is dynamic and collaborative, emphasizing innovation and efficiency. Expectations from the company include contributing to the development of scalable and reliable solutions that optimize cloud costs for our clients. This involves working closely with cross-functional teams to understand client requirements, designing and implementing robust backend systems, and continuously improving existing features to meet evolving needs. Additionally, Harness expects proactive communication, initiative, and a commitment to staying updated with the latest technologies and best practices in cloud cost management and software development.

Academic courses relevant to the project : Object-oriented programming, Data Structures and Algorithms and Design & Analysis of Algorithms

PS-II Station : Hevo Technologies India Pvt. Ltd. , Bengaluru

Faculty

Name: Jyotsana Grover

Student

Name: SHAMEEK KUMAR BARANWAL(2019B1A71099G)

Student Write-up

PS-II Project Title: Platform Enhancements

Short Summary of work done during PS-II : As part of the Platform Team in the Engineering Department, my project centred around the improvement and overall maintenance of the main Hevo Platform, and all the internal tools associated with the functioning of the same. With the goal of minimising dependency on Influx DB for monitoring usage for customers, I was also responsible for designing a new service for calculating billing cycles as part of Project Hevo 2.0, working alongside Edge Team. In addition, I worked on creating a logging service for an internal tool. Alongside these major tasks, I also worked on various minor on-call related issues.

Tool used (Development tools - H/w, S/w) : Java, Dropwizard, Kafka, Redis, SQL, Python, Django, IntelliJ, PyCharm

Objectives of the project : To help with Platform team, Destinations team, and Edge team in developing and maintaining software.

Major Learning Outcomes : Learned collaborative Software Development, large scale system architectures, low-level and high-level design of high availability systems. Learned the concept of TDD and its application.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment in the company is fast-paced and outcome-driven. Seniors are always open for KTs and to help and collaborate on projects, and they're highly approachable. There's plenty of time in the beginning as part of onboarding to learn the various tools and technologies involved, and to get accustomed to the product's architecture. The expectations from the company are that you are able to complete the tasks assigned to you in 2-week sprints, and are able to write and maintain relevant documentation as part of the same.

Academic courses relevant to the project : OOP, DSA, OS, CN, DBMS

PS-II Station : Highway Delite , Bengaluru

Faculty

Name: Venkata Krishna Sashank Dara

Student

Name: GAURANG RATHI .(2020A8PS1800P)

Student Write-up

PS-II Project Title: Product Management Projects- mainly analytics, e-commerce, and SEO

Short Summary of work done during PS-II : During my Practice School II at Highway Delite, I spearheaded diverse projects aimed at optimizing operations, enhancing user experience, and driving business growth. Project 1 involved developing a Customer Transaction Dashboard, providing real-time insights and customizable features for data-driven decision-making. In Project 2, I automated data scraping for vehicle dealerships, schools, and petrol pumps, creating structured databases to support targeted marketing and product promotion. Project 3 focused on SEO optimization for road trip-related services, implementing on-page SEO strategies and competitive analysis. Project 4 introduced innovative automation in fuel stations and toll tax data processing, minimizing manual effort and ensuring accurate, real-time reporting. The E-commerce Expansion Strategy in Project 5 aimed to maximize visibility and sales through Shopify, Flipkart, and Meesho, integrating creative store design, SEO techniques, and multi-platform synchronization. Finally, Project 6 centered on transformative collaboration and client management, implementing tools like ClickUp for team task management and CRM for client communication automation. These projects provided invaluable learning experiences, from SEO best practices to automation implementation, fostering my growth in product management. I look forward to applying these skills and principles in future endeavors, grateful for the opportunities and experiences gained at Highway Delite.

Tool used (Development tools - H/w, S/w) : MySQL for data storage, Tableau for data visualization, Google Sheets, APIs, Automa Chrome Extension, Microsoft Power Automate, Google Sheets, Excel, Drive, Msg91, Hubspot CRM, SEO tools (SemRush, Writerly.ai), Shopify for e-commerce

Objectives of the project : Project 1: Customer Transaction Dashboard Objectives: Enhance decision-making by providing real-time insights into customer transactions, improve customized experience through detailed analytics, and increase revenue by enabling data-driven sales and marketing strategies. Project 2: Vehicle Dealerships, Schools, Petrol Pumps Database Objectives: Automate database creation for various domains, support targeted marketing efforts, and promote products like Fastags and GPS devices by collecting and organizing data from dealerships, schools, and petrol pumps. Project 3: SEO Optimization of Web Pages Objectives: Solve road trip issues by optimizing web pages for products and services, promote fastag recharges and EV charging locators, and enhance user experience through thorough on-page SEO optimization. Project 4: Automation in Fuel Stations and Toll Tax Data Processing Objectives: Reduce manual effort, enhance accuracy, and achieve faster task execution by automating fuel station data extraction, transformation, enrichment, and toll tax processing using SQL, Python, and innovative automation techniques. Project 5: E-commerce Expansion Strategy Objectives: Implement a visually appealing Shopify store with a user-friendly interface, expand reach through platforms like Flipkart and Meesho, and optimize product listings and marketing strategies for increased discoverability and sales. Project 6: Transformative Collaboration and Client Management Objectives: Enhance team collaboration with ClickUp for task management, automate client communication through CRM for efficiency and satisfaction, and prioritize metrics-driven approaches for both team and client interactions.

Major Learning Outcomes : Diverse Skill Development: Acquired skills in data analysis, automation, SEO optimization, e-commerce, and collaboration tools.

Application of Knowledge: Successfully applied theoretical knowledge to real-world projects, gaining practical insights.

Adapta

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : In the dynamic environment at Highway Delite, I found a perfect blend of innovation and practicality even with work from home mode. The company fosters a culture of continuous learning and encourages employees to explore new technologies and methodologies. We participate in a daily standup meet, where we share our task updates from the previous day and upcoming priorities. There's a palpable sense of teamwork, where everyone's insights are valued, contributing to a collaborative and inspiring atmosphere.

Expectations from the company are clear – a commitment to excellence and a drive for innovation. The projects demand a proactive approach and an eagerness to explore cutting-edge solutions. The emphasis on real-time decision-making and automation showcases the company's forward-thinking mindset. There's a shared goal of not just meeting but exceeding customer expectations, making the working environment challenging yet fulfilling.

The freedom to explore and implement ideas, coupled with a strong support system, has been instrumental in my personal and professional growth. The company values individual contributions, fostering an entrepreneurial spirit within the team. It's an environment that encourages thinking outside the box and taking calculated risks to drive meaningful results. I appreciate the company's commitment to employee development, evident in the diverse projects that provide a holistic learning experience. Overall, the expectations are high, but so are the rewards in terms of skill enhancement, career growth, and the satisfaction of being part of impactful projects.

Academic courses relevant to the project : Design thinking and innovation, Digital marketing, PAVA, Probability and statistics



PS-II Station : Hyderabad Consulting Engineers , Secunderabad

Faculty

Name: Madhuri Bayya

Student

Name: NAVDEEP SORLAN(2020A8PS0552P)

Student Write-up

PS-II Project Title: Electrical Substation Design

Short Summary of work done during PS-II : Worked as an electrical design engineer to design electrical substations for clients.

Tool used (Development tools - H/w, S/w) : AutoCAD, Blender

Objectives of the project : To provide good quality designs for electrical substations for various clients.

Major Learning Outcomes : Learnt dealing with clients and their requirements, and creating designs for electrical substations for various purposes.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Peaceful work environment with no particular constraints.

Academic courses relevant to the project : Power Systems, Electrical Sciences

PS-II Station : Hyderabad Industries , Surat

Faculty

Name: Sandeep Kayastha

Student

Name: ABHIGYAN KUMAR .(2020A4PS0226P)

Student Write-up

PS-II Project Title: SCM in Birla HIL

Short Summary of work done during PS-II : I designed mould plates using Fusion360 that will be produced by VMC machine. I worked in Dispatch department during month ends because of high amount of order quantity to be dispatched. Helped in maintaining the DPR.

Tool used (Development tools - H/w, S/w) : Fusion360, VMC machine, SAP software

Objectives of the project : Discuss about SCM in Birla HIL

Major Learning Outcomes : Learned about Supply chain process of the company

Details of Papers/patents : .

Brief Description of working environment, expectations from the company : The plant is located in a remote area with not a lot of options to rent a place to live, making living and commuting a little tough. Other than that the staff were very supportive and encouraging.

Academic courses relevant to the project : Supply Chain Management

PS-II Station : IDFC First Bank , Mumbai

Faculty

Name: Uma Nagarajan

Student

Name: MOHIT KUMAR .(2020A1PS1721P)

Student Write-up

PS-II Project Title: Development of risk fraud scorecard for Used Car business segment

Short Summary of work done during PS-II : I worked on analyzing large volumes of loan applicants data such as banking details, loan application details, loan asset details e.t.c. to come up with a machine learning model to predict cases where loan applicant might not be able to repay back the loan amount.

Tool used (Development tools - H/w, S/w) : Python, PySpark, SQL

Objectives of the project : To develop a fraud risk scorecard for Used Car business segment.

Major Learning Outcomes : Understood various advanced machine learning algorithms and their application to business problems.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment was pretty chill. There was an option of hybrid working environment wherein we were supposed to be in office for 2-3 days in a week and work from home for the rest of the days. Deadlines were hard sometimes but majorly were not difficult to fulfill.

Academic courses relevant to the project : Machine Learning, Foundations of Data Science, Applied Statistical Methods

Name: TUSHAR DEY BISWAS(2020A4PS1987H)

Student Write-up

PS-II Project Title: Account Aggregator , Right time to call , BSA

Short Summary of work done during PS-II : During my internship at IDFC FIRST Bank, I undertook two key projects that significantly enhanced the bank's operational efficiency and strategic decision-making processes. In the first project, I employed statistical analysis to predict the optimal time for customer outreach in the context of EMI recovery and personal loan cross-selling. Analyzing call data, including duration and timing, I identified patterns that enabled the creation of a targeted engagement strategy. This approach not only improved the success rate of EMI recovery but also maximized the effectiveness of cross-selling initiatives. In the second project, I focused on categorizing transaction descriptions within bank statements, providing insights into customer expenditure patterns. The categorization included segments such as food, drinks, EMI, investments, and more. Additionally, I conducted a thorough analysis to flag suspicious transactions, contributing to robust fraud prevention measures. This dual-focus project not only facilitated the generation of personalized customer offers based on spending behaviors but also strengthened the bank's defenses against potential fraudulent activities. Looking forward, there are promising avenues for continued collaboration. These include optimizing predictive analytics for more precise customer engagement, refining processes for streamlined offer generation, advancing fraud detection capabilities through cutting-edge algorithms, and fostering cross-functional integration for a holistic approach to business development. My internship has equipped me with a strong foundation in data-driven decision-making, and I am eager to contribute further to the organization's success through these proposed collaborative initiatives.

Tool used (Development tools - H/w, S/w) : pyspark , python , statistics

Objectives of the project : Modelling and Statistical analysis

Major Learning Outcomes : Got to learn about new technologies like Pyspark , Learned about statistical analysis , NLP

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : work environment is very good , supportive and encouraging people , a very good ps station for learning banking Analytics.

Academic courses relevant to the project : ML, FDSA , NLP , DL

PS-II Station : IFB Industries , Goa

Faculty

Name: Pavan Kumar Potdar

Student

Name: Pushkar Sapre(2020A4PS2337H)

Student Write-up

PS-II Project Title: Noise reduction and vibration modelling

Short Summary of work done during PS-II : Built a non linear vibration model and optimised it using multi- objective genetic algorithm. I also studied sound propagation and absorption to choose materials to reduce machine noise

Tool used (Development tools - H/w, S/w) : MATLAB

Objectives of the project : NVH control

Major Learning Outcomes : I just got to apply what I already knew mostly. I learnt about ODE and ODE solving methods

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : My manager was very good but the overall company morale is very low. People are not interested in working. Atleast twice a day people told me to leave the company saying the company is not good.

Academic courses relevant to the project : VnC

PS-II Station : IFB Industries , Goa

Faculty

Name: Pavan Kumar Potdar

Student

Name: HARRIS FAROOQ ASHAI(2020ABPS1843P)

Student Write-up

PS-II Project Title: Vertical Discharge Air Conditioner

Short Summary of work done during PS-II : Working at the R&D dept. of IFB AC unit. Participating in daily R&D meetings and presenting my work . Studying the latest developments in the AC industry for large scale production and design for manufacturing and assembly (DFMA). Developing a vertical discharge out-door unit which will be compact , give better performance and save cost. Vertical discharge unit is not popular in Indian residential air-conditioning . Improving the design and performance by cost cutting , design changes in fins, inlet/outlet pipes etc.

Tool used (Development tools - H/w, S/w) : Software(Creo, fusion360)

Objectives of the project : Design a vertical discharge outdoor unit for better performance and cost saving.

Major Learning Outcomes : Importance of cost and design details.

Details of Papers/patents : Not to be disclosed.

Brief Description of working environment, expectations from the company : It is good. We have a designated place to sit and do our work, although they do not provide us with internet. We get lunch and breakfast here at the office. They let us study and go through all latest material on air conditioners and then let us decide our project. I was supposed to get my project to the prototype phase but due to delays from the designer's side we were not able to. The design of my project complete and they are satisfied with it. We had good support from our seniors and regular feedback was taken about our progress.

Academic courses relevant to the project : Machine Drawing, Engineering graphics, Thermodynamics

PS-II Station : IIFL Home Finance Ltd. - Digital Property Services , Gurugram

Faculty

Name: Sidharth Mishra

Student

Name: PRIKSHIT(2019B3AA0657G)

Student Write-up

PS-II Project Title: service listing website

Short Summary of work done during PS-II : During my web development internship, I gained valuable experience and contributed to various projects. Some of the key tasks and accomplishments include: Frontend Development, Backend Development, Version Control, Testing and Debugging, Integration and Deployment,

Tool used (Development tools - H/w, S/w) : I used HTML, CSS, JavaScript, Bootstrap, Sass/Less, and frameworks like React.js, Angular, and Vue.js. On the backend, I worked with technologies such as Node.js, Python (Django, Flask), Ruby on Rails, PHP (Laravel, Symfony), and Java (Spring Boot). Datab

Objectives of the project : To create an engaging online presence for the company.

Major Learning Outcomes : Technical Skill Development, E-commerce Integration, Problem-Solving and Troubleshooting, Collaboration and Communication

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : Work environment was very good

Academic courses relevant to the project : Na

Name: DARSHAN PRAVIN BHANGALE(2019B4A80800G)

Student Write-up

PS-II Project Title: Process Excellence

Short Summary of work done during PS-II : Identified Processes that need to be more efficient and ways to do it. In my second project, I had to test a website.

Tool used (Development tools - H/w, S/w) : NA

Objectives of the project : To study and find various ways to improve processes in the company

Major Learning Outcomes : How process work in a company

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good work environment. Learning opportunities.

Academic courses relevant to the project : none

Name: SHARAD AGARWAL(2020A3PS1100G)

Student Write-up

PS-II Project Title: Creating centralized repository for government housing schemes and Credit Linked Subsidy Schemes operated by both the central and state governments.

Short Summary of work done during PS-II : Task-1: Extensive research on Affordable Housing Schemes operated by the Central and State Governments. Creating a database including all the relevant details about the projects under these schemes in all the major states. Task 2: • Looking for new Affordable housing schemes being released by the state and central Governments • Creating Documents containing complete details about the schemes Task 3: Creating a database with customer details for BLC (Beneficiary Led Construction) Projects.

Tool used (Development tools - H/w, S/w) : MS Excel

Objectives of the project : Extensive research on Affordable Housing Schemes operated by the Central and State Governments. Creating a database including all the relevant details about the projects under these schemes in all the major states.

Major Learning Outcomes : Experience of working in a corporate environment. Learned how an NBFC functions. Hands-on experience on Advanced Excel.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Good working environment. Sometimes, there is communication lag within the company.

Academic courses relevant to the project : None

PS-II Station : IIFL Home Finance Ltd. - HR , Gurugram

Faculty

Name: Anjani Srikanth Koka

Student

Name: SAKSHAM JINDAL(2019B3AB0307P)

Student Write-up

PS-II Project Title: HR- Tech and Processes

Short Summary of work done during PS-II : In the HR Tech area, the project included the development of software and tools for the HR department. It involved the creation of core HR data, detailed process mapping, stakeholder mapping, policy, and process mapping as per the HR Handbook, covering day-to-day HR operations and other operations related to the Employee

Lifecycle, and the configuration of these on the HRMS platform. The project also included the configuration of an ORM (Online Reputation Management) tool for easy and fast response to HR-related posts on any social media platform. The goal of this project was to simplify HR processes, improve data handling, and help stakeholders work together better. The area of HR processes included mapping the existing HR processes, creating an industry benchmarking of the same, and preparing a detailed comparative analysis of the policies and processes followed by other companies in the same industry. This acted as a reference point for creating and designing new policies, SOPs, and process flows. Additionally, the project also included a stint in the area of employer branding, where the focus was on making a strong plan for campus engagement, putting employer branding strategies into place, and making job progression plans for interns, new hires from campus, and management trainees, and preparing a detailed change management plan for the HRMS go-live and adoption. The goal was to build a strong employer brand that would draw top talent and help people stay with the company for a long time.

Tool used (Development tools - H/w, S/w) : Softwares used - Darwinbox, Libre office, draw.io, Zoho

Objectives of the project : The project aimed to improve HR operations by developing and implementing software and tools. Objectives included creating core HR data, mapping processes, and configuring them on an HRMS platform to enhance data handling and simplify processes. Additionally, the project focused on implementing an Online Reputation Management (ORM) tool for effective social media response and conducting industry benchmarking. The goals were to create new policies based on industry standards, implement employer branding strategies, and ensure smooth HRMS adoption with change management plans, all contributing to building a strong employer brand and promoting long-term employee retention.

Major Learning Outcomes : Through the HR Tech project, I developed proficient project management skills, encompassing the planning and execution of software and tools for the HR department. This involved adeptly handling tasks such as core HR data creation, detailed process mappin

Details of Papers/patents : No paper or Patent was published by me during my tenure at PS station

Brief Description of working environment, expectations from the company :

Working Environment:

The office had an open and collaborative work culture encouraging free flow of ideas. My role was under the HR COE (Center of Excellence) team which was responsible for capability building initiatives. The team comprised highly experienced professionals with whom I got to closely interact during HRMS configuration and testing. Cross-functional coordination with IT, business operations and other stakeholders was also integral. The autonomous and agile work environment kept me constantly engaged, promoting ownership and accelerated my learning curve.

Company Expectations:

IIFL had high expectations in terms of the project output as the HRMS and ORM implementation was strategic for better data-driven decision making. I was responsible for end-to-end configuration of modules like leaves, transfers, attendance etc. along with detailed workflow documentation. Rigorous UAT testing to meet quality standards before system go-live was critical. Additionally, the company expected fresh perspectives in improving existing HR processes as well as formulating campus transition programs for employer branding. I believe my diligent and creative problem-solving approach coupled with strong execution allowed me to meet the performance benchmarks to the company's satisfaction. The experience made gave me the opportunity to create tremendous value for IIFL.

Academic courses relevant to the project : Principles of Management, Operations Management

PS-II Station : IIFL Home Finance Ltd. - Insta_Retail - Technical , Gurugram

Faculty

Name: Sidharth Mishra

Student

Name: GOKUL B SHAJI(2020A2PS2492H)

Student Write-up

PS-II Project Title: Automated Real Estate Valuation Model Python

Short Summary of work done during PS-II : My project was based on web scraping data regarding property listings from real estate listing sites like magic bricks and commonfloor.com, followed by data cleaning and creation of a price prediction model.

Tool used (Development tools - H/w, S/w) : Python and Excel

Objectives of the project : Procurement of relevant dataset for the project and do the modeling using Python

Major Learning Outcomes : ML related concepts, Proficiency in Python

Details of Papers/patents : N.A

Brief Description of working environment, expectations from the company : Dynamic Company with an appreciable work culture.

Academic courses relevant to the project : Data Science courses on coursera and udemy

PS-II Station : IIFL Home Finance Ltd. - Special Project , Gurugram

Faculty

Name: SRINATH NAIDU

Student

Name: SANYAM AGARWAL(2019B2A41115G)

Student Write-up

PS-II Project Title: Special Projects - Project Manager

Short Summary of work done during PS-II : My work was very crucial to the company as it involved piloting few projects from ground level, which ultimately made company realise their shortcomings and helped them increase their revenue. I was a Project Manager here but also did the work of a Business Analyst. Overall, learned many things as stated in the "Major Learning Outcomes" section.

Tool used (Development tools - H/w, S/w) : Excel, RESSEX, Draw.io, Microsoft Powerpoint, Word, Canva

Objectives of the project : Finding the RED flags in the individual branch's profitability of 65 RED branches out of 371 branches all over India Worked on the automation for finding the red flags in the branch's profitability Creating a summary sheet of all the branches in the red category to be presented in a CXO meet Researching the different state housing boards all over India and finding the details about the ongoing projects under them Creating different templates for Action Plans and Remarks to keep track of the branch's performance Contributed to the establishment of a lead generation call center, developing an outbound call script and process flow diagram to streamline operations and enhance customer engagement Collaborated with CFTs to enhance sales processes via an end-to-end framework suggestion

Major Learning Outcomes : Team management, EXCEL, Draw.io, Leadership skills, Presentation skills, Corporate life, Stress management, Mental health control

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : It is similar to that of other corporate offices. You won't be seeing office politics here as such. You can expect a good learning environment only if you get allotted to a team that actually understands how to treat and use the interns for the work. PPO can be expected.

Academic courses relevant to the project : N/A

PS-II Station : Immensitas Pvt. Ltd. (Lemnisk) , Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: BOHARA SHUBHAM KAILASH CHANDRA(2020A7PS1688G)

Student Write-up

PS-II Project Title: SOLVING DATA REQUIREMENTS USING ATHENA QUERY

Short Summary of work done during PS-II : I wrote Athena Query for the following usecases
1) FTV – First Time Visitor (FTV) is valuable for monitoring and tracking the number of people visiting the website for the first time and assessing the growth or decline in website reach. 2) Total Hits - Analysing total hits on the website is crucial for evaluating overall performance and user engagement. This data allows the client to identify popular content, understand user behaviour, assess the effectiveness of marketing campaigns, and optimize the website for a more tailored and engaging user experience. In essence, tracking total hits provides actionable insights to enhance the website's performance and align strategies with user preferences. 3) Total Visitors- Analysing distinct visitors on the website is crucial for the client to gain insights into their actual audience reach and engagement. By differentiating individual users from repeated visits, the client can assess the effectiveness of marketing campaigns, identify user engagement patterns, and tailor content to specific audience segments. Leveraging this data allows the client to refine digital strategies, optimize user experience, and drive targeted interactions with their audience, ultimately enhancing the overall effectiveness of their online presence. 4) Repeat Visitors - Analysing repeat visitors on the website is pivotal for the client to gauge user loyalty and refine

digital strategies. By understanding the frequency of individual user visits, the client can optimize content to enhance user retention and overall engagement. This data helps identify successful engagement tactics, fostering long-term relationships with the audience and contributing to sustained online success.

Tool used (Development tools - H/w, S/w) : AWS athena query , AWS S3, AWS services and Node js

Objectives of the project : The primary objectives of the Athena query involve gaining insights into user engagement on a website over time. This includes discerning the number of unique visitors to specific pages, identifying repeat visitors, and determining the major acquisition pages for FTV users. The query aims to provide a comprehensive understanding of user behaviour, highlighting frequently visited pages and primary entry points for FTV users. Additionally, it sets the foundation for future analyses, anticipating the exploration of variables such as session durations and customer acquisition patterns within the platform.

Major Learning Outcomes : During my six-month internship at Lemnisk, I developed a robust skill set and gained invaluable experience in the realm of Data Engineering. My proficiency in Athena query writing reached a high standard, enabling me to efficiently extract, transform, and

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : I am fortunate to be a part of the dynamic Data Engineering (DE) team at Lemnisk, where the work environment is characterized by a collaborative and supportive ethos. Team members actively engage in fostering a culture of mutual assistance, exemplifying a commitment to shared success. Our daily scrum meetings serve as a platform for transparent communication, where each team member provides updates on their progress and outlines forthcoming tasks, ensuring alignment with overarching project goals.

Being part of a startup environment, the workload is substantial, and occasionally, deadlines are demanding. However, this dynamic setting cultivates a progressive work culture that encourages proactive problem-solving and continuous improvement. The team's responsiveness and willingness to assist each other contribute significantly to overcoming challenges efficiently.

While the company does not provide dedicated devices, the emphasis on personal responsibility for resources reinforces a sense of ownership and self-reliance. Additionally, the Human Resources department orchestrates weekly activities, fostering camaraderie and enhancing the overall work experience.

I am grateful for the opportunity to contribute to Lemnisk's endeavors and appreciate the enriching work culture that promotes collaboration, innovation, and continual learning.

Academic courses relevant to the project : DBMS

PS-II Station : Indian Institute of Petroleum , Dehradun

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: SHIVAM KUMAR(2019A4PS0562H)

Student Write-up

PS-II Project Title: Advanced Machine Learning Algorithms for Hydrogen Storage Prediction in High Entropy Alloys

Short Summary of work done during PS-II : Throughout my internship at the Indian Institute of Petroleum Dehradun, I dedicated my efforts to doing research on high entropy alloys (HEAs) and their possible use as materials for storing hydrogen fuel. I thoroughly studied academic publications to comprehend the complexities of High Entropy Alloys (HEAs) and their interaction with hydrogen as a fuel source. I was assigned to finding the primary parameters that affect the hydrogen storage capabilities of High Entropy Alloys (HEAs) and gathering pertinent datasets for

study. I used the collected data and identified variables to implement five various machine learning techniques, including linear regression, polynomial ridge regression, artificial neural network, support vector machine, and extreme gradient boosting. The aim was to evaluate the performance of various algorithms and identify the most efficient models for estimating hydrogen storage capacity. By doing careful investigation and thorough comparison, I have determined the most superior models in terms of performance. Afterwards, I used these enhanced machine learning models to forecast the hydrogen storage capabilities of more High Entropy Alloys (HEAs). The findings enabled me to identify certain High Entropy Alloys (HEAs) that exhibit promising performance in terms of their ability to store hydrogen. This comprehensive approach not only enhanced my comprehension of high entropy alloys and hydrogen fuel, but also provided vital insights to the current research and development work at the Indian Institute of Petroleum Dehradun.

Tool used (Development tools - H/w, S/w) : Python and HEAPS

Objectives of the project : To generate a Machine Learning Model that can predict Hydrogen storing capacities of different High Entropy Alloys

Major Learning Outcomes : Learned several Machine Learning Algorithms and gained knowledge of High Entropy Alloys.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Throughout my internship at Indian Institute of Petroleum Dehradun, I've found the working environment to be professional and collaborative. The company values a commitment to excellence, teamwork, and continuous learning. Expectations from the company are focused on maintaining high standards of performance, fostering creativity, and encouraging proactive problem-solving. The atmosphere is open, allowing for effective communication and knowledge sharing among team members. As an intern, I've been given opportunities to contribute ideas, take initiative, and actively participate in projects, facilitating the development of valuable skills within my field.

Academic courses relevant to the project : MATERIALS SCIENCE AND ENGG., THERMODYNAMICS

Name: AMAN VIJAY KHANNA(2020A1PS1697P)

Student Write-up

PS-II Project Title: Research Intern

Short Summary of work done during PS-II : Collected data from around 15 papers and wrote a review paper under the scientists there. The topic was Kinetics of Bunsen Reaction. It is basically for the production of hydrogen.

Tool used (Development tools - H/w, S/w) : NA

Objectives of the project : Write a review paper on kinetics of bunsen reaction and help start up a small plant for the reaction.

Major Learning Outcomes : Able to write a scientific review paper. Understand how a plant works, what all is required. How to work with other people in a plant.

Details of Papers/patents : Various paper were studied on the kinetics of bunsen reaction and how to optimize the operating parameters like pressure, temperature etc. Along with the models used.

Brief Description of working environment, expectations from the company : Working environment is safe, they give gloves and also have masks in case there is work in the plant. They expect you to come everyday from 9:30 - 5:30 M-F. Work is not that intense but you have to be regular.

Academic courses relevant to the project : Process Plant Safety, Chemical Process Technology

Name: NISHIT GUPTA .(2020A1PS1704P)

Student Write-up

PS-II Project Title: Synthesis of Mixed Matrix Membrane for CO₂ gas separation from Industrial Flue Gas

Short Summary of work done during PS-II : Conclusion of the work done: The membranes we've developed align with existing literature, exhibiting a selectivity exceeding 20. Furthermore, their selectivity is consistently higher, showing a minimum improvement of 8%. The CO₂ permeance of the membrane falls within the range of 0.83 to 2.3 Gas Permeation Units (GPU). 2. Including Cu-BTC as a porous filler enhances membrane selectivity and improves permeance, showcasing its potential as a valuable component in membrane technology and could increase the performance of the membrane by up to 73% 3. The evaporation time significantly influences the performance of polymeric MMMs, emphasising the critical role of this parameter in achieving optimal results 4. The developed regression models could be used to predict the Permeability of CO₂, CH₄ and N₂ for MMM of PEBAX where the filler composition (Biochar) is between – 1wt% to 25wt%, at 10 bar pressure.

Tool used (Development tools - H/w, S/w) : Gas Analyser, Gas Regulator, Membrane Permeation Testing Unit, Excel, R, Origin, Google Sheets, Regression Analysis, Sonicator

Objectives of the project : Development of polymeric MMM to separate out CO₂ from Industrial Flue gases

Major Learning Outcomes : Synthesis of different Polymeric membranes, Different membrane casting methods, Development and Modification of Fillers

Details of Papers/patents : Under Review

Brief Description of working environment, expectations from the company : Working environment entirely depends on the lab you are assigned to. I was assigned in Adsorption and membrane separation department. People over here are very friendly, they guided me in best

way possible and helped me out through my project. As expected from CSIR , it had all the required amenities one requires to carry out R&D work. We now work upon things which we like by talking to our guide.

Academic courses relevant to the project : Transport Phenomena, Membrane Science and Engineering, Separation Processes

Name: SHWETABH VATS(2020A1PS2015G)

Student Write-up

PS-II Project Title: DEVELOPMENT OF A CORRELATION FOR PREDICTION OF GAS-LIQUID INTERFACIAL AREAS IN AN AGITATED SPARGED TANK CONTACTOR

Short Summary of work done during PS-II : The study provides novel insights into the behavior of gas bubbles in liquid systems by collecting and analyzing data from a huge dataset of over 200 literature using MATLAB and Python packages such as Seaborn and Openpyxl. A careful investigation of multiple frameworks, including regression plots and Pearson correlation analysis, led to the construction of a robust regression model that effectively correlates with experimental data. The study's conclusions were recorded in a detailed research piece, emphasizing the significant improvements in the efficiency and accuracy of estimating interfacial area in gas-liquid agitated sparged tank contactors.

Tool used (Development tools - H/w, S/w) : Python, MATLAB, Excel

Objectives of the project : Develop a correlation to predict interfacial area between gas bubbles and liquid medium in an agitated sparged gas tank contactor from the parameters gas holdup and bubble diameter, then support the findings through experimental and mathematical evidences, contributing to the field's continuous progress as the field is very less studied..

Major Learning Outcomes : I learned how to appropriately comb through pieces of literature for literature review, how to gather, collect, and clean datasets for modeling purposes, different kinds of ML models for prediction purposes, how to formulate the research for a research pa

Details of Papers/patents : The research has significantly enhanced our understanding of the gas-liquid interfacial area in agitated sparged tank contactors. A careful investigation of multiple frameworks, including regression plots and Pearson correlation analysis, developed a robu

Brief Description of working environment, expectations from the company : The working environment was excellent, and my mentor was extremely supportive and guided me throughout the project. There were regular check-ins to make sure the project was going on the right track and the technical instruments available helped me finish the project within the timeframe.

Academic courses relevant to the project : Fluid mechanics, mass transfer, and thermodynamics.

Name: SIBASISH SUR(2020A1PS2360H)

Student Write-up

PS-II Project Title: KINETIC STUDIES FOR THE HYDROGENATION OF CO₂ TO ETHANOL

Short Summary of work done during PS-II : Herein, we have synthesised molybdenum-iron-cobalt nanoparticles(NPs) supported SBA – 15 catalysts. From SEM and TEM, we have found that the catalyst has a hexagonal, mesoporous structure with worm-like 3d morphology. Afterwards, we performed kinetic studies for the hydrogenation of CO₂ to Ethanol at 200°C in a stirred batch reactor by varying the partial pressures. Using model discrimination, we have concluded that our reaction follows the Eley-Rideal mechanism on dual-site where CO₂ is the adsorbed species and H₂ is in the gaseous phase.

Tool used (Development tools - H/w, S/w) : ORIGIN PRO,MS-WORD,MS-POWERPOINT,MS-EXCEL,GC-MS

Objectives of the project : The objectives of the paper are to synthesize a suitable catalyst for the hydrogenation of CO₂ to Ethanol and find the rate law for the given reaction

Major Learning Outcomes : One of the most important things that I learned while working as an intern in IIP is how to work in a research lab and how to interact with your fellow lab mates. Further, I also learned how to synthesize catalysts and how to troubleshoot problems.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : It was a great experience to work in such a great organisation. IIP has one of the best equipments in the country. Both the company HR and my supervisor were extremely helpful. I have to especially thank the senior PhD students who were always with me during my time in IIP.

Academic courses relevant to the project : CHEMICAL REACTION ENGINEERING, NUMERICAL METHODS FOR CHEMICAL ENGINEERS, GENERAL CHEMISTRY,

PS-II Station : Indira Gandhi Centre for Atomic Research , Kalpakkam

Faculty

Name: Swapna S Kulkarni

Student

Name: ABHIMAAN PATIL(2019AAPS0264G)

Student Write-up

PS-II Project Title: Design of DAQ System and Graphical Interface for Beam Profile Monitor for 1.7 MV Tandem Accelerator

Short Summary of work done during PS-II : The work entails successful design and evaluation of a data acquisition system and Graphical User Interface (GUI) using LabVIEW for BPM based on an oscillating Wire Scanner for a 1.7 MV tandem accelerator. A working design was proposed, firmware for the design was created and tested. GUI was created to display the graphs in realtime. Within these 6 months better understanding of the microcontroller design, its implementation and uses were understood. Gained practical knowledge on PCB designing. Learnt to use a new software (LabView) and basic knowledge about ARM processors were also gained.

Tool used (Development tools - H/w, S/w) : LabView, Arduino, KiCad, Kiel μ -vision, Intel Quartus Prime

Objectives of the project : Objective of the project was to create a Data acquisition system which can acquire data from an analog source at the speed of 4Mbps using a 8-bit microcontroller and display the selective instances of the signal on a monitor. convert data in time domain to spatial domain. the project required deep understanding of the working of the microcontroller and beam profile monitors. Some level of expertise was also required to perform the graphical programming on LabVIEW.

Major Learning Outcomes : Learnt using Graphical programming. Got better understanding of microcontroller design.

Details of Papers/patents : 1 paper written and submitted to the International Conference on Signal Processing and Integrated Networks Conference.

Brief Description of working environment, expectations from the company : The organization expects us to work without much hand holding and the responsibility to communicate with the mentors regularly falls on the student. The professors are all very supportive and helpful. You will be made available of any resources that are required for the project. The mentors have high expectations from the students. you will also get to meet many PhD students. P.S. nearest city is 2 hours away.

Academic courses relevant to the project : Computer Architecture, Embedded Systems

Name: DEVANSH KASHYAP .(2020A1PS1708P)

Student Write-up

PS-II Project Title: Predicting the Distribution Ratio of Actinides in Organic phase by Machine Learning

Short Summary of work done during PS-II : The PUREX process is a widely used solvent extraction process used in Nuclear Fuel Reprocessing. A big challenge faced in the process is scale of organic compounds formed during the process. To optimize the process, knowledge of Distribution coefficients of Uranium and HNO₃ (two important compounds in the feed) is essential, but due to uncertainty in radiochemistry this becomes challenging. Hence computer simulations and models are being used to simplify the process. An ANN model was made in the project learns from data from the process and predicts the Distribution Coefficient with accuracy. The results from the model can aid other simulations and help optimize the process for much efficient and safer operations.

Tool used (Development tools - H/w, S/w) : Python, PyTorch

Objectives of the project : To create an Artificial Neural Network model to predict the Distribution Coefficients of Actinides and HNO₃ by providing their concentrations as an input taken from the PUREX process data.

Major Learning Outcomes : Gained knowledge about Nuclear Power production, Nuclear Fuel Reprocessing and Machine Learning techniques being used in research. Worked with real data and got to learn from very experienced researchers in the industry.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is great. The mentors were very welcoming and open to help in any case of difficulty. Mentors made sure that resources were readily available and were ready to clear any doubts. The responsibility to communicate with the mentors regularly falls on the student. There might be some difficulties to adjust to workplace initially but free communication with mentors will ease that process.

Academic courses relevant to the project : Separation Process

Name: RISHABH INDORIA(2020A3PS0500P)

Student Write-up

PS-II Project Title: Implementation of open source network analysis tools for cyber security of Industrial Control Systems Network

Short Summary of work done during PS-II : Industrial Control System Network manage and control critical infrastructure as such monitoring and identifying any anomalies or threats is very important. Our task involved studying about different open source tools which can be used to monitor this network, which ultimately lead to us building an application which is being used to monitor the network. The capabilities of this application include identifying all the devices within the network in a defined range, extracting port information from all the Managed switches, provide a topology of the network based on this information and provide graphs for network statistics such as Latency and Throughput. Also, this application is also able to give latency and throughput statistics of a single device as well, essentially isolating it.

Tool used (Development tools - H/w, S/w) : Zabbix, Nmap, Wireshark, Prometheus, Vscod, PyQt5

Objectives of the project : To study open source network analysis tools and build a stand alone application capable of discovering all the devices in any network, while also providing port information from Managed Switches.

Major Learning Outcomes : Gained experience in computer networks. Learnt about different protocols and software programs used within a network.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is positive, and the mentors were also very helpful. They are very busy, so it is expected to have patience in waiting for their replies. The responsibility to communicate with the mentors regularly falls on the student. The organization expects us to work without much hand holding and complete the work in stipulated deadlines.

Academic courses relevant to the project : Computer Networks

Name: ARUN B JOHN .(2020A3PS1518P)

Student Write-up

PS-II Project Title: Development of Remote Radiation Monitoring and Logging System

Short Summary of work done during PS-II : This project focuses on development and enhancement of a Remote Radiation Monitoring & Logging System. The system, which is developed us LabVIEW, collects data from Area Gamma Monitors (AGM) and Continuous Air Monitors (CAM) utilizing 4-20 mA analog current signals received from an RTU. A Remote Terminal Unit (RTU) processes this data, and a monitoring & logging system has to be developed which will display and save/log the data for analysis. The information obtained from RTU is processed and mapped to the corresponding AGM & CAM reading to be displayed on the front panel of the monitoring system, which is curated to be user-friendly and easy to navigate through. Along with monitoring the reading, the data collected is logged on a 24-hour basid along with corresponding timestamps for later analysis. This system is also equipped with the feature of troubleshooting channel & RTU connection, live plotting of the data, offline plotting for getting an idea of the trend of the 24-hour logged data. This system will enable real-time remote monitoring

for radiation parameters, ensuring continuous data accessibility, reducing on-site risks, and optimizing resources.

Tool used (Development tools - H/w, S/w) : LabVIEW, LTSpice, VISIO, Remote Terminal Unit (RTU), Area Gamma Monitor (AGM), Continuous Air Monitor (CAM).

Objectives of the project : To develop an application to continuously monitor AGMs (Area Gamma Monitors) & CAMs (Continuous Air Monitor) which are used to monitor radiation parameters (alpha, beta, gamma particles) in a facility and log the data collected for further analysis.

Major Learning Outcomes : Computer network, industrial control system (ICS), device instrumentation, remote monitoring.

Details of Papers/patents : No papers were published

Brief Description of working environment, expectations from the company : Within the Radio-Chemistry Lab (RCL), this project focused on developing a Remote Data Logging and Surveillance System for real-time monitoring of radiation parameters. The positive atmosphere and mentor support in RCL were integral to navigating the project's challenges. Mentors offered valuable guidance, emphasizing the importance of patience in awaiting responses. Proactive communication in the form of weekly meetups & reports, led by the student, played a crucial role in maintaining a smooth workflow. The organizational culture in RCL promotes self-directed work, with an expectation for student to operate independently and meet established deadlines.

Academic courses relevant to the project : Analog electronics, Computer Network, Analog and Digital VLSI Design

PS-II Station : Indus Insights and Analytical Services Pvt Ltd , Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: SATYAJIT AVADHOOT KUMTHEKAR(2019B1A30921G)

Student Write-up

PS-II Project Title: Data science and Analytics

Short Summary of work done during PS-II : We built a Light gbm model to contain the credit risk of our client. For that we first did a data understanding, the. A business understanding followed by creating suitable variables out of the data. The. We decided the sample training a test data set to build the model. After building the model was optimised and presented to the client

Tool used (Development tools - H/w, S/w) : Excel, sql , python

Objectives of the project : To create a Light GBM model

Major Learning Outcomes : Excel, sql and python expertise along with lending and ML model framework experience

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great environment, the company comes with a steep learning curve and definitely adds value to you. There is also a good amount of responsibility given. Work hour expectations are 10hrs a day as they are billable hours.

Academic courses relevant to the project : Data science minor

Name: MARDAV KALA .(2019B4A10715P)

Student Write-up

PS-II Project Title: Data analytics and science

Short Summary of work done during PS-II : Working on Data for a US Based client, and doing analysis and contributing to their business and highlighting any risky segments

Tool used (Development tools - H/w, S/w) : Excel, python, sql

Objectives of the project : Client based work on data

Major Learning Outcomes : Data analysis, Sql, python, excel

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : Work is quite hectic and work life balance is not good

Academic courses relevant to the project : Na

PS-II Station : Infionic , Hyderabad

Faculty

Name: Y V K Ravi Kumar

Student

Name: VAIBHAV SINGH .(2020ABPS1840P)

Student Write-up

PS-II Project Title: Product Management intern

Short Summary of work done during PS-II : Throughout the internship, I actively participated in the execution of different techniques applied in product management. From prototyping and user journey mapping to feature prioritization and managing sprints, each task presented a unique learning opportunity. The exposure to these various facets of product management allowed me to gain practical insights into the intricacies of delivering successful outcomes in a dynamic and fast-paced environment.

Tool used (Development tools - H/w, S/w) : N.A

Objectives of the project : Decreasing the lead time by automating the pre sales process.

Major Learning Outcomes : Product Strategy

Details of Papers/patents : N.A

Brief Description of working environment, expectations from the company : Working environment is highly professional. Coworkers were co-operative. However don't expect stipend payment anytime during your internship. The CEO will sweet talk you into buying him more time and will start avoiding you later after the internship ends. It's been 7 months since my internship started and I still haven't received my internship stipend of a single month. The only reason I continued working for free was to avoid bad grade in my PS-2.

Academic courses relevant to the project : Operation Management , SCM

PS-II Station : InMobi- Business Analyst , Bengaluru

Faculty

Name: RAMESH VENKATRAMAN

Student

Name: AYUSH RAJGARIA(2019B1AA0990G)

Student Write-up

PS-II Project Title: Inmobi Business Insight- My journey at Inmobi

Short Summary of work done during PS-II : Spearheaded the creation of the Exchange Health Dashboard in Power BI, serving as the definitive Single Source of Truth for comprehensive data insights . Integrated interactive self - serve features , becoming the primary resource for first - level partner analysis . Ranked 1 out of 400 dashboards currently in use within the company saving upto to 400 hours of manpower monthly. • Utilized PySpark SQL queries for accuracy and improve overall efficiency in data processing . • Collaborated with Microsoft consultants to optimize visual rendering in PowerBI , significantly enhancing user experience & data presentation . • Played a key role in bridging the dataflow gap between the Exchange and in-house DSP, facilitating seamless integration and enabling efficient utilization of 1st party data .

Tool used (Development tools - H/w, S/w) : Sql, PowerBI, Excel, Databricks, Pysparks

Objectives of the project : Journey at Inmobi and work done and achieved.

Major Learning Outcomes : Sql, PowerBI

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Great working environment, no problems faced.

Academic courses relevant to the project : None

Name: SARVASVA KHARE .(2019B5A40752P)

Student Write-up

PS-II Project Title: Automation of ads campaign creation and management

Short Summary of work done during PS-II : Created scripts for bulk upload and update of campaigns using python.Integrated different pixel setups for conversion tracking on landing pages. Created power Bi dashboards for cost and revenue from multiple platforms and publishers.Shifted to apache superset for faster update of dashboards due to huge amount of data.

Tool used (Development tools - H/w, S/w) : Python,Excel, Pyspark, Google ads,Meta ads,Power BI,Apache superset

Objectives of the project : To automate the process of ad campaigns management on different ad platforms.Integration of data from different platform into one single dashboard

Major Learning Outcomes : Learned about managing different ad campaigns and to measure their performance.

Used APIs of different platforms for automating tasks.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Best work life balance company and best food.

Academic courses relevant to the project : None

Name: VISHWAJEET SINGH(2020A1PS1578G)

Student Write-up

PS-II Project Title: My experience at InMobi

Short Summary of work done during PS-II : Work included extracting data from third party websites and presenting it to the managers. It also included hunting for client contacts and initiating the first contact

Tool used (Development tools - H/w, S/w) : Excel, Sensortower, Lusha

Objectives of the project : To show what all i learnt in inmobi and my first experience in a professional environment

Major Learning Outcomes : Soft skills like business communication and code of conduct in a professional environment, data management and analysis, presentation of ideas to clients

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Great work life balance, very welcoming environment, very friendly people

Academic courses relevant to the project : Business communication

Name: PRASAST SINGH .(2020A2PS1740P)

Student Write-up

PS-II Project Title: Digital marketing intern

Short Summary of work done during PS-II : Helped team in running campaigns, publishing case study, blogs, press release. Built landing pages and seo optimization. Helped team with newsletter and email marketing to generate leads.

Tool used (Development tools - H/w, S/w) : Asana, hubspot, unbounce, excel

Objectives of the project : Helping team and assisting them

Major Learning Outcomes : Learnt everything about Marketing, from field marketing to digital and even B2B, B2C and partner/agency marketing

Details of Papers/patents : None published

Brief Description of working environment, expectations from the company : Very good work environment with flexible hours and chill work culture

Academic courses relevant to the project : None

Name: YASHVARDHAN PRASAD .(2020A2PS1775P)

Student Write-up

PS-II Project Title: Role of SSP in Adtech Industry from Operations Perspective

Short Summary of work done during PS-II : Their key roles include: Connecting Publishers and Advertisers: Ad exchanges bring together publishers (those with ad space to sell) and advertisers (seeking ad placements) in a centralized platform, enabling transactions and ad placements. Real-time Auctions: They facilitate instantaneous auctions where ad impressions are sold to the highest bidder through a complex bidding process, often conducted in milliseconds. This dynamic bidding system maximizes the value of ad inventory for publishers. Efficient Monetization: Ad exchanges optimize revenue for publishers by ensuring competitive bidding from advertisers, driving up prices for ad impressions and maximizing publishers' earnings. Audience Targeting and Optimization: They provide tools for advertisers to target specific audiences based on demographics, behavior, or contextual relevance. This targeting capability enhances the effectiveness of ads and boosts ROI for advertisers. Data Analytics and Insights: Ad exchanges

offer data analytics and reporting tools, providing valuable insights into ad performance, audience engagement, and revenue generation. This data empowers advertisers and publishers to refine strategies for better outcomes.

Tool used (Development tools - H/w, S/w) : PgAdmin,SSP UI,Excel,Salesforce ticketing system

Objectives of the project : To know how operations work in the ad tech sector

Major Learning Outcomes : Understanding how operations work in ad tech industry and completing the process driven client setups on day to day basis

Details of Papers/patents : No Papers were published

Brief Description of working environment, expectations from the company : Collaborative

Culture: InMobi often emphasizes collaboration and teamwork. Employees are encouraged to share ideas, work together across teams, and contribute to a culture of innovation.

Diverse and Inclusive: InMobi values diversity and inclusion, fostering an environment where employees from various backgrounds feel welcome and respected. This diversity often leads to a rich tapestry of ideas and perspectives.

Innovation and Creativity: InMobi operates in the forefront of mobile advertising technology, which encourages a culture of innovation and creativity. Employees are often empowered to think outside the box, experiment with new ideas, and push the boundaries of what's possible in the mobile advertising space.

Dynamic and Fast-paced: The mobile advertising industry is fast-paced and constantly evolving, and InMobi reflects this environment. Employees may need to adapt quickly to changes in technology, market trends, and client needs.

Learning and Development: InMobi typically invests in employee learning and development, providing opportunities for skill enhancement, training programs, and career growth. Employees may have access to resources to stay updated on industry trends and technologies.

Flexibility: Depending on the role and location, InMobi may offer flexible work arrangements, including remote work options, flexible hours, and work-from-anywhere policies. This flexibility can contribute to a better work-life balance for employees.

Employee Well-being: InMobi may prioritize employee well-being, offering benefits such as health and wellness programs, mental health resources, and work-life balance initiatives to support the overall health and happiness of its employees.

Academic courses relevant to the project : Applied Statistical methods and CP

Name: KUSHAGRA ROHELA(2020A2PS2532H)

Student Write-up

PS-II Project Title: Sales Excellence

Short Summary of work done during PS-II : During the six-month internship at InMobi, the focus was on understanding and contributing to the company's dynamic environment in mobile advertising. InMobi, evolving from an SMS-based search engine in 2007, emerged as a billion-dollar unicorn in India, emphasizing user-friendly mobile ads. The report details team dynamics in the Sales Excellence department, led by Karanpreet Malhan and Akansh Dubey, outlining responsibilities such as revenue tracking, sales management, and strategic planning. A significant project involved transitioning accounts from Microsoft to InMobi billing, demonstrating adaptability and problem-solving skills. The intern actively participated in billing transitions, insertion order creation, and addressing client-facing issues. Tools utilized included Microsoft Advertising Editor, User Centric Management (UCM), Salesforce, and InMobi's internal shell. Progress encompassed training sessions, modules on tools and platforms, and active involvement in the billing transition process. The intern gained insights into Microsoft Advertising features, Salesforce customization, and played a role in account optimization. The conclusion reflects on the valuable knowledge acquired in corporate operations, teamwork, and problem-solving. The intern expresses gratitude for the opportunity, emphasizing growth in Microsoft Search advertising, financial data handling, advanced Excel, documentation, and data representation. In summary, the internship provided a comprehensive understanding of InMobi's operations, highlighting the intern's growth, adaptability, and ability to handle challenges in the corporate environment. .

Tool used (Development tools - H/w, S/w) : MS EXCEL, Salesforce, Microsoft Advertising Editor,

Objectives of the project : 1.Overseeing the day-to-day operations of the organization. 2.Revenue tracking and interventions 3.BoB (Book of Business) Management 4.Revenue attribute 5.Sales Management 6.Billing and Collection 7.MSA (Microsoft Advertising) support Roadblocks 8.Finance Management 9.Handling lead generation and booking opportunities 10.Billing Transitions 11.Analysing data to identify opportunities for improvement and developing plans for change based on these findings.

Major Learning Outcomes : Advance Excel, Microsoft Advertising, data handling, documentation, and data cleaning.

Billing Transitions, Microsoft Account Optimization.

Along with collaboration, critical thinking, technical proficiency, adaptability, communication, and Time management

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment is very good for supporting seniors and colleagues. There are different programmes going on to learn a completely different thing from your domain, providing every employee with an equal opportunity to learn things that are going to help him excel in his career. The company's core business is around advertising technology, so you are going to work around the same. The company's business model is B2B. Your ideas will be given equal weight, and if they are really helpful, they will be implemented as well.

Academic courses relevant to the project : -

Name: VINEET KUMAR(2020A4PS1823G)

Student Write-up

PS-II Project Title: Business Analyst

Short Summary of work done during PS-II : As a sales executive, I was able to get more clients to run campaigns with us, created IO(contracts) as and when a company wanted to run a campaign with us, maintained my regions repository, searched for leads and contacts through sales navigator for them to be reached out

Tool used (Development tools - H/w, S/w) : Salesforce, Groove, Excel, SensorTower, PowerBI, LinkedIn Sales Navigator

Objectives of the project : To hunt for more clients and to maintain repositories

Major Learning Outcomes : Getting to know more about AdTech companies and competitors in the advertising business. How our company uses programmatic advertising and it's specific targetting.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : InMobi has one of the best working environments in the entire country, flexible in terms of working from home or office, plenty of leaves given each month, the great food helps you work at your peak potential

Academic courses relevant to the project : NA

Name: NITISH KARTHIKEYAN(2020A4PS1928G)

Student Write-up

PS-II Project Title: InMobi Demand

Short Summary of work done during PS-II : Prepared monthly region wise marketing influence reports, qualified leads generated from marketing campaigns daily and handed over to sales teams

Tool used (Development tools - H/w, S/w) : Hubspot, Salesforce, MS Excel

Objectives of the project : To understand InMobi's demand generation functioning and day to day activities

Major Learning Outcomes : Learnt how to use CRM tools, qualify and nurture leads, communicate between different departments to bridge sales funnel

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Great working environment, very flexible and welcoming

Academic courses relevant to the project : None

Name: ADITYA RAMAKRISHNAN IYER(2020A4PS1940G)

Student Write-up

PS-II Project Title: Business Analyst

Short Summary of work done during PS-II : During my internship as a Sales and Client Success Intern at InMobi, I played a pivotal role in driving revenue growth and ensuring client satisfaction in the ISO team. My responsibilities included analyzing and managing leads using Salesforce, creating custom proposals tailored to client needs, and generating weekly sales reports for the sales team. I collaborated closely with account managers to maintain spending trackers, streamline billing processes, and optimize financial management. Through effective communication and problem-solving, I contributed to enhancing client relationships and delivering

targeted advertising solutions. Moreover, I developed proficiency in Salesforce, Confluence, MS Excel, Clarity, and LeadIQ along with refining soft skills such as communication, adaptability, and time management. Overall, my internship experience equipped me with valuable industry insights and practical skills.

Tool used (Development tools - H/w, S/w) : Salesforce, Clarity, MS Excel, Appsflyer, LeadIQ, Sensor Tower

Objectives of the project : Assist the sales and client success team in their daily functions.

Major Learning Outcomes : Proficiency in Salesforce: I gained hands-on experience in using Salesforce for lead management, data analysis, and reporting.

Proposal Development: I learned how to create customized proposals for clients, including outlining costs, services, timelines,

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment in InMobi is quite flexible. There aren't strict timings and one can come to office as per his/ her convenience and the workload they have. Your working hours may also vary depending on which team you are a part of.

Expectations for me from the ISO team were to timely update and maintain the spending trackers for different campaigns managed by the account managers, develop detailed weekly sales report on confluence, analyse and sort the mix-panel leads on MS Excel, use PowerBI to generate graphical reports of campaigns. During month ends, I also had to generate the billing sheet on MS Excel for team ISO. I also had to make proposal decks before certain deadlines for prospects.

Academic courses relevant to the project : NA

Name: DHRUV JAJOO .(2020ABPS1833P)

Student Write-up

PS-II Project Title: ANALYSING AND OPTIMIZING MICROSOFT AD CAMPAIGNS

Short Summary of work done during PS-II : In my role as a Business Analyst at InMobi, I specialized in analyzing Microsoft ad campaigns. My primary responsibilities included assessing the performance of ongoing campaigns and providing strategic recommendations for improvement. I actively contributed insights to enhance the effectiveness of existing campaigns while simultaneously proposing innovative ideas for new initiatives. This role not only honed my analytical skills but also provided valuable insights into the dynamic realm of paid digital marketing. A significant focus of my work involved delving into the intricacies of Microsoft ads, allowing me to gain comprehensive knowledge of their operational mechanisms. This experience deepened my understanding of the intricacies of paid digital marketing strategies, encompassing aspects such as audience targeting, ad placement, and performance metrics. By working closely with Microsoft ad campaigns, I developed a nuanced perspective on optimizing marketing efforts to achieve tangible results.

Tool used (Development tools - H/w, S/w) : Excel, Power BI

Objectives of the project : To analyze ad campaign data for companies in order to suggest optimization techniques for an improved result.

Major Learning Outcomes : Got to learn more about paid marketing services and the working of Microsoft ads.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment of the company is very good. The employees are very helpful and friendly. My team was also very accommodating, and I was able to get along with everyone. My expectations were to gain corporate experience and get to know about the digital marketing landscape which I managed to do successfully.

Academic courses relevant to the project : -

Name: SAMKIT JAIN .(2020ABPS1853P)

Student Write-up

PS-II Project Title: Account management

Short Summary of work done during PS-II : During my internship at InMobi, I played a pivotal role in driving the success of digital marketing campaigns. Notably, I onboarded four new campaigns for Cred, diversifying our strategies and expanding target audiences for increased impact. A key accomplishment was the implementation of an automation process for data fetching in Excel trackers. This streamlined workflows, minimized errors, and significantly improved team productivity, laying a more robust foundation for data-driven decision-making. I took charge of managing campaigns for notable clients, including Bharat Matrimony, Netmeds, Glowroad, Treebo, and Insanely Good by Swiggy. Responsibilities encompassed optimizing ad performance, analyzing metrics, and making strategic adjustments for enhanced campaign efficacy. Throughout this period, I faced and successfully addressed various challenges, providing invaluable learning opportunities. These experiences honed my problem-solving skills and ability to adapt to the dynamic environment of digital advertising.

Tool used (Development tools - H/w, S/w) : Salesforce, ms excel, jira, apps flyer, branch

Objectives of the project : managing accounts of different clients

Major Learning Outcomes : Marketing plans, account management

Details of Papers/patents : n/a

Brief Description of working environment, expectations from the company :

ChatGPT

Working Environment:

InMobi cultivates a dynamic and collaborative working environment characterized by innovation and continuous learning. The office space is modern and vibrant, promoting creativity and

teamwork. Cross-functional collaboration is encouraged, ensuring open communication and the value of diverse perspectives.

Teams benefit from regular meetings, brainstorming sessions, and knowledge-sharing initiatives. The company emphasizes diversity and inclusion, creating an atmosphere where every employee feels empowered to contribute.

Cutting-edge technologies and tools are employed, providing employees with the resources to stay ahead in their fields. InMobi values a healthy work-life balance, recognizing its impact on productivity and creativity.

Expectations from the Company:

InMobi expects employees to be proficient in their roles, with a proactive approach to seeking growth opportunities. A results-oriented mindset is valued, and employees are encouraged to take ownership of their projects.

Continuous learning is prioritized, supported by training programs, workshops, and mentorship opportunities. The company fosters innovation, urging employees to think creatively and contribute ideas for company advancement.

Leadership is committed to maintaining a positive and inclusive workplace culture. Clear communication channels and regular feedback mechanisms foster a constructive working relationship between employees and management. In essence, InMobi sets high performance standards while providing the necessary support for employees to exceed expectations.

Academic courses relevant to the project : Marketing research, Supply chain management

PS-II Station : Integrated Active Monitoring Pvt. Ltd. , Pune

Faculty

Name: Suparna Chakraborty

Student

Name: ARYAN MOHAKUD .(2019B2A10965P)

Student Write-up

PS-II Project Title: Worked on multiple different projects, from dashboards to third party softwares

Short Summary of work done during PS-II : Worked on creating Employee Field Service Report Dashboard from scratch. I mainly worked on the backend of the dashboard; but was also given the opportunity to work on the frontend. Also worked with different third party softwares like Milestone Xprotect and Xovis PCM devices.

Tool used (Development tools - H/w, S/w) : Postgres, MongoDB, React, Python, FastAPI, SQL, Pycharm, Docker

Objectives of the project : Building the backend / frontend as per requirements on deadlines

Major Learning Outcomes : Had a very good understanding of the backend working, and API making along with interacting with databases and fetching data as per requirement.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : A very good work environment. People are very helpful and supportive. Normally, there is always some work to do and you will not be idle. Its basically a chill environment, with good work to do and we are given more to explore as we keep completing our tasks.

There is no as such pre-requisite, you are helped with learning whatever is needed for the task. Some of the interns learnt python and postgres in the first week and starting working as per their tasks from the next week.

Academic courses relevant to the project : Maybe Computer Programming

Name: YASHRAJ SANTOSH KUMAR JHA(2020A2PS2437H)

Student Write-up

PS-II Project Title: Interflex and Dashboarding

Short Summary of work done during PS-II : I specialize in developing dashboards and visualizations for ICICI Bank, playing a crucial role in presenting comprehensive facility management data. This encompasses attendance records, the real-time status of controllers and terminals, employee identification, access times, and other pertinent information. My experience also extends to working with Interflex software, particularly IF6040. In this capacity, I've been actively involved in configuring access control and workforce management. My proficiency includes crafting custom triggers, actions, and scripts using C# language, along with leveraging the software's built-in functions. I've contributed significantly by modifying scripts to align with specific user requirements, ensuring optimal functionality and efficiency.

Tool used (Development tools - H/w, S/w) : IF6040 (Interflex Software), Microsoft Sql Server, Grafana

Objectives of the project : Creating visualizations to track the people access as well as operations of Access control devices

Major Learning Outcomes : C#, SQL language and various types of databases such as InfluxDB, PostgresSQL etc., Python

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Friendly working environment. Encouraging learning experience.

Academic courses relevant to the project : None

Name: [KARVE AVANI ABHIJIT\(2020AAPS1019G\)](#)

Student Write-up

PS-II Project Title: Design and Development of a Field Service Delivery Platform

Short Summary of work done during PS-II : Worked on a web portal and mobile app development to track work done by employees on the field

Tool used (Development tools - H/w, S/w) : Python, FastAPI, MySQL, PostgreSQL

Objectives of the project : To create a Field Service Delivery Platform that tracks the work done by employees

Major Learning Outcomes : FastAPI and web development and database systems

Details of Papers/patents :

Brief Description of working environment, expectations from the company : The working environment within the company is one that values collaboration, innovation, and a strong dedication to excellence.

Academic courses relevant to the project : DSA, DBMS

PS-II Station : iRasus Technologies Pvt Ltd , Gurugram

Faculty

Name: MONALI TUSHAR MAVANI

Student

Name: Harshal Sharma(2020A4PS0246P)

Student Write-up

PS-II Project Title: iRasus Web Platforms

Short Summary of work done during PS-II : Developing a user-friendly interface and integrating high-impact features for prominent industry leaders like JBM and Essel Energy. Leveraged SQL, React and FastAPI to develop a platform for JBM that can boost battery life by 20% and optimize fleet management. Implemented authentication and authorization features for a variety of users leveraging access management tools like Keycloak

Tool used (Development tools - H/w, S/w) : React, SQL, FastAPI, Databases, Docker

Objectives of the project : Developing web platforms for iRasus' clients

Major Learning Outcomes : React, SQL, FastAPI, Databases, Docker
Developing products at scale

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The environment is very friendly with flexible working hours and plenty of work from homes are provided whenever required.

Academic courses relevant to the project : NA

PS-II Station : ITC Limited , Bhadrachalam

Faculty

Name: Panchagnula Jayaprakash Sharma

Student

Name: CHINMAY MURAGESH SABANE(2020A1PS1572G)

Student Write-up

PS-II Project Title: Furnish Management

Short Summary of work done during PS-II : The initial phase of this project involved analyzing the supply chain and understanding which type of pulp is used to produce what product after which I made a flowchart to depict the pulp allocation decisions and coded them on python and used streamlit to create an interface for people to gain insights on pulp requirements for the upcoming customer orders and make real time pulp allocation decisions in case there is a machine breakdown.

Tool used (Development tools - H/w, S/w) : Python , PI Vision ,MS Excel ,PI Explorer

Objectives of the project : Analyzing current wood pulp allocation strategy and creating a web based recommendation tool to make real-time decisions

Major Learning Outcomes : 1) Python Programming for real-life application
2)Understanding work life in a chemical core company
3)Effective communication with people to extract relevant information from them

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : There was an opportunity to lead the project without much supervision from my mentor , the basic expectation my mentor had of me was to complete the project . It can be a great learning experience if you are willing to go out of your way and ask people questions and be curious .

Possible Cons:

1)6 day workweek

2)Bhadrachalam is a remote place ,so you could get bored here

3)Might not like the food

4)Unpaid leaves

Regarding PPO:

Possible in case you perform exceptionally well , but not sure-shot. 1 out of 4 students in my batch was offered PPO.

My Suggestion:

Don't choose this station if you are looking for a lite PS-2, the company expects you to work quite a bit , but will be worth if you are interested to learn about manufacturing industries and get an experience of core mech and chemical roles.

Academic courses relevant to the project : Optimization , Computer Programming

Name: VEPA BHASKARA MONISH(2020A4PS0901H)

Student Write-up

PS-II Project Title: REDUCTION OF STEAM DISTRIBUTION LOSSES

Short Summary of work done during PS-II : Mapping the dashboard for different types of steam and creating the tags for the pressure , temperature for calculating the losses . Calculating the enthalpy savings based on the Delta P, Delta T ,and the relevant steam savings, arriving at the cost savings. Suggesting the relevant changes in the distribution inorder to reduce the losses.

Tool used (Development tools - H/w, S/w) : Excel, Pi Vision, Power Point

Objectives of the project : Reduction of losses across the plant by mapping the distribution in a dashboard , monitoring the losses, and identifying the reasons for the losses . Suggesting the improvements in the distribution to reduce the losses.

Major Learning Outcomes : Learnt how to make dashboards, how to assess losses and the reasons behind the losses, mostly the Industry wide steam related concepts and applications. Had the experience of watching how the Boilers, Turbines and headers work closely which we have studied

Details of Papers/patents : No

Brief Description of working environment, expectations from the company : Work is not hectic, you can have 6-7 work hours and finish the work accordingly .Finishing the work is finally what matters and Mentors are helpful. The initial days will involve going to plant and learning how exactly things work(I recommend to do this as it increases your technical knowledge).

Academic courses relevant to the project : Heat Transfer, Lean Manufacturing, Applied Thermodynamics, Engines Motors & Mobility, PMFM

PS-II Station : IUDX Program Unit, Indian Institute of science - Data Kaveri , Bengaluru

Faculty

Name: Nishit Narang

Student

Name: KAUSHAL SAGAR KIRPEKAR .(2020A3PS0828P)

Student Write-up

PS-II Project Title: Privacy Preserving Data Exchange - Secure Enclaves

Short Summary of work done during PS-II : Implemented an enclave manager server leveraging Intel SGX (TEE) technology, Successfully deployed the YOLO Object Detection

algorithm for processing traffic image data within Intel SGX, Executed a Proof of Concept (PoC) for a machine learning model designed for heart disease detection on sensitive data, as a medical use case of Intel SGX, Started a new phase of the project by conducting a deep-dive research into AMD's confidential VMs (SEV-SNP) and various cloud offerings

Tool used (Development tools - H/w, S/w) : Github, VSCode, Azure

Objectives of the project : To design an enclave manager server for Intel SGX, to have a medical use case running inside Intel SGX, to conduct research on having Intel SGX running on Azure

Major Learning Outcomes : Learnt various tools like Git & Linux commands

Learnt Bash scripting

Learnt how to build APIs using Flask

Learnt a lot about the privacy domain in general

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Work environment is great. Colleagues are helpful and fun to work with.

Company gives freedom but expects certain work to be done in accordance with the timeline.

Academic courses relevant to the project : OS, DBMS

PS-II Station : J29 F&B Consultancy LLP , Gurugram

Faculty

Name: Sudeep Kumar Pradhan

Student

Name: GARVIT SUKHIJA .(2019B2AB0952P)

Student Write-up

PS-II Project Title: Product Management

Short Summary of work done during PS-II : During my internship at Foodpe, I engaged in enhancing the WhatsApp bot for improved customer interaction, developed restaurant-specific web applications, and integrated advanced payment solutions like Razorpay and Pine Labs. I also played a key role in expanding the client base in the Delhi NCR region through strategic market analysis.

Tool used (Development tools - H/w, S/w) : Figma, Jira, Mixpanel, Salesforce

Objectives of the project : To learn the process of product management at an early stage startup

Major Learning Outcomes : UI/UX understanding, Data Analytics, Product Sense, Market Research

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Foodpe represents a paradigm shift in the digital engagement of the restaurant industry. Initially a modest venture offering a WhatsApp-based ordering service, the company rapidly evolved into a comprehensive provider of digital solutions tailored for restaurants. This evolution was driven by a clear vision to empower restaurants with digital tools that streamline operations, enhance customer engagement, and boost brand presence.

Academic courses relevant to the project : Supply Chain Management, Optimization, Operations Management

Name: PRANAV SHANMUKH YELLAYI .(2019B5A40485P)

Student Write-up

PS-II Project Title: Frontend development

Short Summary of work done during PS-II : Developed the UI for foodpe, untegrating payment gateways apis from razorpay and pinelabs.

Tool used (Development tools - H/w, S/w) : Next.js, typescript, node.js, mongoDB, html, xss

Objectives of the project : Build UI, integrate APIs and build APIs

Major Learning Outcomes : Redux

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very dedicated and goal oriented team, pushing each other towards target as well as maintaining a healthy work life balance.

Academic courses relevant to the project : CS F111

PS-II Station : JPMC - CIB R&A Wholesale Payments , Mumbai

Faculty

Name: Sidharth Mishra

Student

Name: PRATHAMESH AJAY BAIWARE(2019B3A80570P)

Student Write-up

PS-II Project Title: Automation of excel based deck making process using Tableau

Short Summary of work done during PS-II : During my PS-II, I focused on developing key skills. I became proficient in creating interactive dashboards using Tableau and gained insights into the supply chain finance industry. Working closely with clients, I addressed their financing needs, enhancing interpersonal and problem-solving skills. In terms of technical skills, I mastered Excel automation, including macros, vlookup, and pivot tables. This streamlined data analysis processes, contributing to more efficient financial modeling. In summary, my PS-II experience provided a well-rounded skill set, combining Tableau expertise, supply chain finance insights, client interaction skills, and Excel automation proficiency. This foundation positions me for success in the dynamic fields of finance and data analysis.

Tool used (Development tools - H/w, S/w) : Tableau, Excel, Bloomberg terminal, Powerpoint, Pitchpro+, Python

Objectives of the project : To automate an excel based deck making process using tableau software

Major Learning Outcomes : Learnt making dashboards on Tableau

Understood about working of supply chain finance industry

Understood the requirements of clients for financing their operations

Learnt about excel automation, macros, vlookup & pivot tables

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : My internship experience was characterized by an exceptionally positive working environment. The atmosphere within the company was conducive to collaboration and mutual support, creating a culture that emphasized teamwork and open communication. Colleagues and mentors alike contributed to a sense of camaraderie within the team, fostering a positive and inclusive atmosphere.

Mentors played a pivotal role in my professional development during the internship. Their support and guidance were instrumental in navigating the challenges of the projects. They were approachable, and their willingness to share knowledge and insights contributed significantly to a dynamic and enriching learning experience.

Expectations from the company were not only met but exceeded. Clear and transparent communication channels ensured that project objectives were well-defined, and regular discussions about the ongoing project were conducted in a timely manner. This not only provided clarity but also allowed for alignment with the broader goals of the company.

The company's commitment to professionalism and the overall positive working environment significantly contributed to my personal and professional growth. Timely project discussions and updates ensured that tasks were undertaken with efficiency and effectiveness, making the internship experience both rewarding and educational. Overall, the combination of a supportive atmosphere, mentorship, and effective project discussions created an environment that far surpassed my initial expectations during the internship.

Academic courses relevant to the project : Fundamentals of Finance & Accounting

Financial Management

Macroeconomics

PS-II Station : JPMC CIB R&A Global Research , Mumbai

Faculty

Name: Sidharth Mishra

Student

Name: G.K.KIRUTHIK SRINIVAAS(2019A3B30392G)

Student Write-up

PS-II Project Title: Fixed Income Research

Short Summary of work done during PS-II : Used Python Modules to Automate reports and helped the team in day to day tasks like publishing reports that clients use.

Tool used (Development tools - H/w, S/w) : Python, VBA, MS Excel

Objectives of the project : Fixed Income research related to buy, sell or hold rating of company.

Major Learning Outcomes : Lot of learning was based around my sector. Learnt the use of Python in Automation of Reports that go to the clients. Got an idea of how valuation of companies work and learnt about analyzing financial statements

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Most of your experience depends on the sector/ team you get allotted to. The people in my team were friendly. I was given decent time to learn the things that I did not know of. Overall, it was a good place to understand and get introduced to the finance world.

Academic courses relevant to the project : Business Analysis and Valuation, Security Analysis and Portfolio Management

Name: ABHIMANYU JAIN .(2019B3A30446P)

Student Write-up

PS-II Project Title: Equity Research Analyst

Short Summary of work done during PS-II : Financial Modelling and Analysis

Tool used (Development tools - H/w, S/w) : Microsoft Excel, Microsoft Word, Microsoft Powerpoint

Objectives of the project : Studying companies in the stock market

Major Learning Outcomes : Financial Modelling and Analysis, understanding of various sectors, industries and companies

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Positive working environment, good team

Negative:

Long working hours

Academic courses relevant to the project : Business Analysis and Valuation, Financial Management, Fundamentals of Finance and Accounting, Security Analysis and Portfolio Management

Name: PRAKHAR RAI(2019B3A30679H)

Student Write-up

PS-II Project Title: Equity Research Analyst

Short Summary of work done during PS-II : During my internship at JP Morgan in equity research, I actively contributed to various aspects of financial analysis and market intelligence. A significant portion of my responsibilities involved crafting comprehensive reports, where I reduced complex financial data into clear and insightful format. This helped me develop an ability to communicate financial information effectively. Financial modeling was the core component of my internship, as I engaged in constructing intricate models to evaluate company financials, industry trends etc. My role extended to model management, where I ensured the accuracy and relevance of financial models, while testing their reliability as decision-making tools. A key highlight of my internship was the creation of investor presentations. I was tasked with reducing complex financial

concepts into visually compelling presentations, effectively conveying investment thesis and recommendations to clients. This experience sharpened my skills in presenting complex financial information in a simpler and engaging format. Reacting swiftly to geopolitical news and assessing its impact on the sector was a dynamic aspect of my internship. This involved staying informed about global events (through sources provided by the firm) and swiftly analyzing their implications on market trends. This real-time analysis helped me understand how my seniors made informed decisions amid rapidly changing scenarios, a crucial skill in the fast-paced environment of investment banking.

Tool used (Development tools - H/w, S/w) : MS Excel, Tableau, Bloomberg Terminal, Alphasense, JPMC Proprietary Software

Objectives of the project : To help our teams in daily activities such as client requests, report writing, research, financial modelling etc.

Major Learning Outcomes : Precision, Time management, Experience with JPMC proprietary technology, Accountability, Team work

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working in Global Research is a dynamic and intellectually stimulating experience. On day one itself, you will be told to be curious about things and read as much as possible on anything to do with what sector/industry your team covers. The role involves in-depth analysis of financial markets, company financials, and industry trends. One distinctive aspect of the role is that majority of the tasks will not feel repetitive, which fosters a continuous learning environment. The initial phase includes comprehensive training, equipping interns with the necessary skills and knowledge, be it in something basic like MS Excel or some other proprietary software specific to a team. This training not only covers technical aspects of research but also focuses on critical thinking and problem-solving. However, the unique feature of this role is the expectation to transition from a training environment to independently handling tasks. Once the training phase concludes, interns are entrusted with the responsibility to autonomously handle tasks assigned to them. Independence in handling tasks not only promotes professional growth but also contributes to a collaborative and innovative work culture at JP Morgan. Overall, the Global Research internship

at JPMC GRC is a dynamic and challenging experience that promotes continuous learning, independence, and accountability.

Academic courses relevant to the project : All Finance Minor courses help in one way or the other.

Name: RITVIK RAJKUMAR AGRAWAL(2019B3A70506G)

Student Write-up

PS-II Project Title: Global Reasearch

Short Summary of work done during PS-II : Report making, market analysis, investment thesis, Bloomberg, MS-Excel, client requests

Tool used (Development tools - H/w, S/w) : Bloomberg, MS Excel, PowerPoint, MS word

Objectives of the project : Equity Research

Major Learning Outcomes : Attention to details, quick & precision in completing tasks.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Time-bound work, quickness in the IB industry can be felt here, Long working hours with consistent output delivery

Academic courses relevant to the project : BAAV, FOFA, Finman, SAPM

PS-II Station : JPMC CIB R&A Markets - Sales , Mumbai

Faculty

Name: Sidharth Mishra

Student

Name: NISHITHA REDDY L(2019B3A80710H)

Student Write-up

PS-II Project Title: Equity swaps mail automation project , BREN Backtesting, VBA Automation

Short Summary of work done during PS-II : I have been assigned an automation project that involves checking all deal references to determine if their refix dates fall on the current day. If affirmative, the code will fetch pertinent data from the database and calculate equity, floating amounts, and dividends received within the refix period. The final step includes generating a detailed report that will be automatically sent to my manager. Other projects builds on my experience in automating various VBA tasks, such as creating 20 folders on a shared drive with specific edits in names, generating Word termsheets from Excel entries, auto-saving files in designated folders based on email subjects, pricing numerous derivative options in JPMC software, and managing daily business-as-usual tasks.

Tool used (Development tools - H/w, S/w) : Completely JPMC related software. Athena studio (similar to Visual studio code), IMS, Cockpit, Simon, Pyramid TP

Objectives of the project : I have to automate excel detailed report of equity swaps and

Major Learning Outcomes : Python, Prioritizing tasks, Real time applications of Derivatives, Multitasking,

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The team strikes a great balance between being laid-back and getting the job done on time. We've had some enjoyable outings, and the overall atmosphere really depends on the team dynamics. With a flat hierarchy, it's easy to approach anyone on the floor without any hesitation. The team is not only fun but also supportive and motivating—they're always there to lend a hand. It creates a work environment that's both relaxed and productive, making it a great place to be..

Academic courses relevant to the project : Derivatives and Risk Management

PS-II Station : JPMC GR&C â€™ AM Risk - Market Risk Coverage , Bengaluru

Faculty

Name: Vaishali Pagaria

Student

Name: PARAB CHINMAY ABAJI(2019B4A70708G)

Student Write-up

PS-II Project Title: Using Alteryx for Automation

Short Summary of work done during PS-II : Created Alteryx workflows to calculate RegVaR and create the monthly Profit and Loss report. Monitored risk for the Asset Management portfolio on a daily basis. Helped the team with weekly/monthly reconciliation processes. Performed the weekly stress signoff and delivered the weekly market risk updates to the EMEA CRO (Chief Risk Officer).

Tool used (Development tools - H/w, S/w) : Tableau, Alteryx, Excel, Python, Word and Powerpoint

Objectives of the project : Use Alteryx to replace existing Excel User Tools

Major Learning Outcomes : Learnt how to use Alteryx for data manipulation. Learnt how VaR and stress is used to manage risk. Learnt how to use Tableau to monitor risk and create reports.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : It was a great place to work. Asking doubts was encouraged and the team was helpful in explaining new concepts/tasks. My team encouraged me to present my project at several internal events. Work life balance was great as well. The company expects you to deliver your best results and they provide sufficient resources to achieve that.

Academic courses relevant to the project : Probability and Statistics, Theory of Computation, DBMS

PS-II Station : JPMC GR&C “ Corporate Risk - Controllers , Bengaluru

Faculty

Name: Vaishali Pagaria

Student

Name: CHITVAN AGRAWAL(2019B3A70559G)

Student Write-up

PS-II Project Title: CCAR Reporting and Alteryx Automation

Short Summary of work done during PS-II : The project/control performed is a monthly control and is a reconciliation between the Risk Systems and Financial Systems. We verify risk systems are consistent with financial systems, and map unmapped accounts between each, and investigate any breaks. We begin by downloading the data from both systems, which involves around 15 Excel files. After that we run one Alteryx Workflow to perform mappings between the two systems. Post that, an excel workflow is performed to ready the files for the next Alteryx Workflow. This excel workflow involves use of filters and pivot tables. Post that the second Alteryx workflow is run and the reconciliation is given as output. From here we must map all new balances between the systems and investigate all breaks in the reconciliation. To investigate, we go through detailed accounts in both the systems and if we are not able to find the cause, we reach out to financial and product controllers. We must also verify that all explained differences explained out for breaks previously are still valid. This involves repeating many of the same investigations. Some of these verifications involve the use of Tableau also.

Tool used (Development tools - H/w, S/w) : Alteryx, Data Analysis tools, Financial Knowledge, tabluae, MS Excel

Objectives of the project : CCAR Reporting and Alteryx Automation

Major Learning Outcomes : Alteryx, Data Analysis tools, Financial Knowledge, tabluae, MS Excel

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : I have been learning a lot of about the financial industry and how an investment bank operates. I have also gained a lot of knowledge of various financial products and of accounting. Working in JPMorgan Chase & Co. gives me an ample amount of knowledge about how an organization of such scale operates and collaborates. I am grateful to all the employees who have taught me, helped me in understanding how the processes and all the software required for the job work.

Academic courses relevant to the project : BAAV, SAPM, DRM,FUFA, FinMan

PS-II Station : JPMC GR&C “ Corporate Risk “ F&BM , Bengaluru

Faculty

Name: Vaishali Pagaria

Student

Name: SOUMYA VISHNOI .(2020A7PS1512P)

Student Write-up

PS-II Project Title: Reporting automation

Short Summary of work done during PS-II : I worked on developing automation systems for weekly and monthly reporting.

Tool used (Development tools - H/w, S/w) : Alteryx, tableau

Objectives of the project : Make an automated emailing pipeline, maintain the existing reporting workflows

Major Learning Outcomes : Collaboration with team members, intelligent automation systems

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment is very positive. Everyone is very approachable. There are abundant networking opportunities at the firm which is very fruitful in the long run.

Academic courses relevant to the project : Fundamentals of finance and accounting, corporate finance

PS-II Station : JPMC GR&C “ MRGR AWM CTC , Bengaluru

Faculty

Name: Vaishali Pagaria

Student

Name: SATYAM GUPTA(2019B3A71277H)

Student Write-up

PS-II Project Title: MRGR(Model Review and Governance Review)

Short Summary of work done during PS-II : Automated the creation of benchmark models using machine learning algorithms feature selection algorithms. Work is focused on various time series models like the Error Correction Model, GARCH, and SARIMAX . Working closely with Ph.D. colleagues expanded my expertise. Carefully reviewed reports on quantitative models, paying attention to statistical reasoning and risk identification. Besides building models, thoroughly examined data sources, segmentation, diagnostics, and backtesting. Learned about quant model development.

Tool used (Development tools - H/w, S/w) : Git, Python , Excel

Objectives of the project : Build Benchmark Models

Major Learning Outcomes : Team Work

Benefits of networking

The importance of good communication

Benefits of taking feedback
International team exposure
Working with PHD's in a team.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The company provides a platform for continuous learning, fostering an atmosphere where employees are encouraged to stay ahead of industry trends. They don't expect much from interns, they expect you to explore everything.

Academic courses relevant to the project : Applied Economics, Machine Learning, Statistics, and Economics

Name: RISHI ROY(2020A7PS0135G)

Student Write-up

PS-II Project Title: Ensemble Model for Advanced Data Analytics – Adaptive Alerting Machine Learning Model: APAC High Risk Geography – External Cybersecurity Vendors Risk Analysis

Short Summary of work done during PS-II : Both in the Ensemble model and the XG Boost model, we went through the technical document that the developers sent us, did the document analysis and had several rounds of QnA with the developers. I was tasked to do the independent replication of the model that the developers have provided us and also build the benchmark model. For, the XGBoost model, I came up with a benchmark model using LightGBM. After a lot of experimentation with hyperparameter tuning & regularization to counter model overfitting, I came up with a model that performed better than the developer's XGBoost model. Next, I did a lot of analysis on the benchmark model, including feature removal analysis, probability-productivity calibration, shap plots, feature importance analysis, k-s statistic analysis & varying the random_state of the model. For the Ensemble model, I came up with a benchmark model by

replacing k-means clustering with hierarchical clustering. But I got similar results to the original Ensemble model which shows that the developer's model was a stable one. I also did a lot of analysis on both the developer & the benchmark model including sensitivity analysis & plots. In the External Cybersecurity Vendors Risk Analysis, we researched a lot of cybersecurity applications and sent out mails to the AO/IO of the individual applications, telling them our doubts and enquiring about the use of AI/ML techniques in their products. After a lot of research, out of the initial 36 applications, we pin-pointed 8 applications that might use AI/ML & would therefore be an estimation. We teamed up CTC senior management & had individual meetings with the AO/IO for all the applications, so that we could classify them as an Analytical Tool / Model (direct/critical importance to firm business) / Not an Estimation. For this project, I worked directly with senior management & learned a lot of things in the process, including the managerial side of businesses.

Tool used (Development tools - H/w, S/w) : Python, Jupyter Notebook, Outlook, EDEn

Objectives of the project : Ensemble Model: Identify variances at Flag#1 level that are considered to be outliers | Adaptive Alerting ML Model: Classify alerts that are generated by the current transaction monitoring system as having a high or low likelihood of being escalated to a second-level reviewer (Case) | External Cybersecurity Vendors Risk Analysis: Do a background check of the external cybersecurity applications that JPMC uses and find out which one of those use AI/ML techniques so that they can be classified as a model, as it is a potential risk

Major Learning Outcomes : I learned a lot of things during my internship. Technical Skills: ml techniques, statistical techniques, python + Soft Skills: corporate communication, discipline

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The work environment in JPMC is amazing. Everyone is very friendly and approachable. Our office was the sexiest building in entire Bangalore with top notch facilities for employees (amazing food, nap rooms, focus rooms, meeting rooms, coffee machines).

Academic courses relevant to the project : ML, DL, POE, Econometrics, Prob Stats, ASM

**PS-II Station : JPMC GR&C “ MRGR CIB Ex Trading (Quant Modelling) ,
Mumbai/Bangalore**

Faculty

Name: Vaishali Pagaria

Student

Name: HARI SANKAR .(2019B3A70564P)

Student Write-up

PS-II Project Title: automator

Short Summary of work done during PS-II : built an automator

Tool used (Development tools - H/w, S/w) : jupyter notebook

Objectives of the project : build an mrm automator

Major Learning Outcomes : team skills, python

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Great!

Academic courses relevant to the project : Fundafin

PS-II Station : JPMC GR&C “ WCS Data Science - Product “ Client Risk management , Mumbai

Faculty

Name: Arindam Roy

Student

Name: AKSHAJ GUPTA .(2019B3A70314P)

Student Write-up

PS-II Project Title: WCR Product - Client Risk Management

Short Summary of work done during PS-II : This 6-month internship focuses on reimagining existing operating models and designing innovative solutions to drive foundational changes to legacy processes. Project results are focused on more efficient processes, industry-leading technology, improved client experience, and impact on P&L. The role involves serving as a Product Owner for key Wholesale Credit Risk Technology applications/systems and participating in project teams on initiatives to resolve diverse problems identified by senior management and CROs across Wholesale Credit Risk, promoting consistency across LOBs, Sub-LOBs, increasing data quality, and improving client experience.

Tool used (Development tools - H/w, S/w) : MS Excel

Objectives of the project : Client Risk - Product Management

Major Learning Outcomes : How to talk to senior management, time management, saying no to untimely deadlines

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : It was a very relaxed environment. You are given time to learn the work. Even if you don't work a lot, nobody minds. The office offers free coffee, and there is a dual monitor setup. There is a free commute to and from the office. The company expects you to dress appropriately and be punctual. You should interact with stakeholders well.

Academic courses relevant to the project : Technical Report Writing, English Skills for Academics

Name: KSHITIJ GAUR(2020A7PS1221G)

Student Write-up

PS-II Project Title: JPMC GR&C – WCS Data Science - Product – Data management

Short Summary of work done during PS-II : iSPRESO takes company financials as input and spreads the company's financial statements to help out the credit risk officers. ○ Facilitated improvement of the Capital Structure Tab on iSPRESO, Simplified data mapping during vendor switch for which the firm got it's financial data. ○ Helped to build a spreading template from scratch for Broker-Dealers and onboard 436 clients onto iSPRESO.

Tool used (Development tools - H/w, S/w) : Postman, SQL, Python, Excel, API

Objectives of the project : Help build a platform which helps the credit risk officers perform adjustments on the client financials received from vendors such as CapIQ and Factset.

Major Learning Outcomes : Help the team in the daily tasks as well as provide them with someone who can write scripts in python for data pulls and other tasks.

Details of Papers/patents : NIL

Brief Description of working environment, expectations from the company : Great Environment, Chill team. Overall a really enjoyable experience.

Academic courses relevant to the project : Fufa, SAPM, DRM, BAAV, FinMan,

Name: ARYAN AJAY BASANTANI(2020A7PS2091H)

Student Write-up

PS-II Project Title: iSPRESO - Financial Data Product

Short Summary of work done during PS-II : In the Wholesale Credit Risk division of the CIB Risk LOB, I worked within the iSPRESO team, focusing on product implementation to ensure data quality and a seamless user experience. The iSPRESO comprised two business teams and a dedicated agile tech team for development. During my Practice School projects (internship), I supported both sub-teams while aiding senior members in their projects. My role encompassed Business-As-Usual (BAU) tasks and project-based responsibilities. In BAU, I primarily handled new client onboarding issues and user queries, managed ServiceNow tickets for structural modifications, and supported daily operations. Projects included automating report generation using VBA, reducing manual effort by over 95%. I also created reports evaluating vendor data quality, identifying redundant financial information, and collaborated on portfolio onboarding, navigating complex collaborations between teams and regulatory requirements. Additionally, I delved into SQL to extract crucial KPIs and metrics, vital for informed business decisions. Working in a multifaceted environment, I contributed to diverse projects, from automating processes to strategic data model designs, understanding financial intricacies, and facilitating seamless portfolio transitions. These experiences honed my skills in resource and time management, particularly in long-term project planning spanning months. Overall, I gained a comprehensive understanding of the interplay between technology, finance, and business strategy while contributing meaningfully to various facets of the iSPRESO team's endeavors.

Tool used (Development tools - H/w, S/w) : Python , Excel, VBA, SQL, Postman

Objectives of the project : • Digitizing the financial data currently in individual offline silos, to cloud based online server. • Workflow simplification and exponential saving of time and effort for downstream users in credit teams • Ensuring data quality and operational smoothness in business as usual (BAU) scenarios for credit teams • Operational efficiency for the upstream Spreading teams. • Eventual Monetization of the data and synthesized insights

Major Learning Outcomes : - Agile workflow in product teams

- Stakeholder management
- Expectation setting and management
- Application specific use of technologies :
- Task scheduling and prioritisation

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : At JPMC, the work environment thrives on professionalism, diversity, and inclusivity. The culture fosters high ownership and accountability while accommodating a hybrid work model, allowing for both remote and in-office workdays. Collaboration is key, with open desk setups even among senior executives, promoting a vibrant and inclusive atmosphere. The office itself boasts recreation facilities, medical assistance, and diverse cafeterias, emphasizing accessibility for all.

Teams comprise multi-expertise members across global locations, upholding high standards of professionalism, ethics, respect, and accountability. In-office presence is expected, encouraging questions, idea contributions, and thorough attention to detail in all endeavors. The company values thorough due diligence, proactive engagement, and a collaborative spirit, promoting an environment where everyone's insights are valued and respected.

Academic courses relevant to the project : Fundamentals of Finance and Accounting, Database Systems, Corporate Finance

Name: GAUTAM GOYAL .(2020A3PS1024P)

Student Write-up

PS-II Project Title: Credit rating for internal clients using ml model

Short Summary of work done during PS-II : I liked my ps

Tool used (Development tools - H/w, S/w) : Python sql

Objectives of the project : To credit rate the internal clients of jpmc

Major Learning Outcomes : Really learned corporate working and indeed my project learning

Details of Papers/patents : No patent

Brief Description of working environment, expectations from the company : Very good and friendly

Academic courses relevant to the project : Finance minor data science minor

Name: PRATHAM SANDEEP BIRLA(2020A7PS0114P)

Student Write-up

PS-II Project Title: Wholesale Credit Risk

Short Summary of work done during PS-II : Made dashboards for presenting data.

Tool used (Development tools - H/w, S/w) : Tableau, Alteryx, Python, SQL

Objectives of the project : Reduce time for running bau

Major Learning Outcomes : Learnt to use new tools. Got exposure to finance work culture.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very chill environment and flexible timings.

You will be guided through at every step.

Academic courses relevant to the project : Finance Minor

PS-II Station : JPMC GR&C “ WM Risk - AWM Risk innovation , Mumbai

Faculty

Name: Vaishali Pagaria

Student

Name: Jay Kalpesh Shah(2020A1PS0186P)

Student Write-up

PS-II Project Title: Python CAM Automation

Short Summary of work done during PS-II : The objective of this process is the automation of the Credit Analysis Memo document (CAM document) which is an essential part of the Credit Risk. Our solution uses various excel and other files and automatically generates a Word document. This reduces the manual effort by a significant portion by eliminating the manual effort averaging to 3.48 hours and performs the action in 4-5 minutes on average.

Tool used (Development tools - H/w, S/w) : Python

Objectives of the project : The objective of this process is the automation of the Credit Analysis Memo document (CAM document) which is an essential part of the Credit Risk. Our solution uses

various excel and other files and automatically generates a Word document. This reduces the manual effort by a significant portion by eliminating the manual effort averaging to 3.48 hours and performs the action in 4-5 minutes on average.

Major Learning Outcomes : How to automate an intelligent solution using Python

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Very friendly environment, people are very approachable

Academic courses relevant to the project : None honestly but if some course helped a bit it was FRAM etc where I got a little knowledge of Credit Risk

PS-II Station : JPMC GR&C CCB Risk - Strategy Analytics - Analyst , Mumbai/Bangalore

Faculty

Name: Vaishali Pagaria

Student

Name: ARYAN UDESHI(2019B3A70206G)

Student Write-up

PS-II Project Title: Risk and reporting in mortgage banking

Short Summary of work done during PS-II : I worked on multiple projects in my time here which covered automation and analytics as well as some ad-hocs. The automation project involved automating monthly reports which are created in Excel using VBA and Excel functions. I was also

able to work on a number of analytics projects which allowed the firm to take necessary steps to mitigate and hedge risks. The details of the projects cannot be disclosed due to NDA norms. I also worked with other teams on ad-hocs that involved pulling and validating data.

Tool used (Development tools - H/w, S/w) : Excel, Alteryx, SAS, Teradata, Python, SQL

Objectives of the project : Automation, reporting, analytics

Major Learning Outcomes : Mortgage banking industry in the US, risk management, analytics, time management, working with a team effectively

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : My team was excellent and were very inclusive. From the beginning I was allowed to sit in meetings that involved the leads of various teams and work with them which helped with my exposure. My manager also organized multiple calls a week at the start of my internship to help me understand the mortgage banking industry, my role in the team and my book of work. Everyone in the team was completely open to any questions I had and even upper management has a true open door policy. My manager also designed my book of work in such a way that it was a mix of learning as well as genuine contribution to the wider team's work. The work - life balance was also very good, I was never expected to work outside of office hours and we also had WFH 2 days a week.

Academic courses relevant to the project : A few macroeconomics courses, DBMS

Name: GARGI GUPTA(2019B3AA1326H)

Student Write-up

PS-II Project Title: CCB Risk- Strategy Risk Intern

Short Summary of work done during PS-II : Collaborated within the Auto Credit Forecasting Team, specializing in Risk Appetite, Credit Forecasting Modeling, and Risk Credit Committee Deck preparation. Developed a comprehensive Chronology Log to track events impacting Chase Auto portfolio. Facilitated the transition of SAS projects to Python. Gained technical proficiency in Python, SAS, Tableau, and MS Excel.

Tool used (Development tools - H/w, S/w) : Excel, Python, SAS, Tableau

Objectives of the project : Auto Credit Forecasting

Major Learning Outcomes : Portfolio Analytics, Team Collaboration, Business Communication, Presentation skills, Technical Proficiency in SAS, Python, and Advanced Excel

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : A work environment that embraces inclusivity and diversity, with exceptionally supportive colleagues always ready to assist at any time.

Academic courses relevant to the project : Security Analysis and Portfolio Management (SAPM), Derivatives and Risk Management (DRM), Business Analysis and Valuation (BAV), and Financial Risk Analysis and Management (FRAM)

Name: ANIKET BHUYAN(2019B5AA0656G)

Student Write-up

PS-II Project Title: Data Extraction using ML Concepts and Automation of Capacity Planning Process using SAS, SQL and Excel

Short Summary of work done during PS-II : Two research-based projects heavily rely on Python programming and concepts in Machine Learning (ML) and Natural Language Processing

(NLP). The main priority project plays a pivotal role within the organization by acting as a bridge between two distinct teams. This project's core mission is to facilitate seamless collaboration and communication between these teams, thereby optimizing their efficiency and productivity.

Tool used (Development tools - H/w, S/w) : Sas, Python, Excel

Objectives of the project : Extract Data from unstructured sources and Design a new Workload Framework

Major Learning Outcomes : Time Management, Data Articulation, Technical Skills

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : I have worked on Python, ML, and NLP research projects corresponding to the firm's tech-driven aims. I have also assisted teams in better collaborating, making our work more efficient and per business strategies. Furthermore, my active participation in the Diversity and Inclusion Advisory Group demonstrates my colleagues' recognition of my dedication to diversity. These initiatives contribute to J.P. Morgan's heritage of quality and innovation while also expressing the company's values and future ambitions. The work environment played a pivotal role, fostering a culture of support and continuous learning. The inclusive atmosphere facilitated deeper dives into concepts, enriching my skill set. Despite occasional course demands, a harmonious work-life balance was generally maintained, allowing personal well-being alongside professional development.

Academic courses relevant to the project : C.P, FuFA

PS-II Station : JPMC GR&C Market Risk , Mumbai / Bangalore

Faculty

Name: Vaishali Pagaria

Student

Name: SHIVANSH JOHARI .(2019B3A80503P)

Student Write-up

PS-II Project Title: Market risk dashboard

Short Summary of work done during PS-II : The project involved automation of a conventional risk report to a tableau dashboard to display and duplicate the view as of company's tools. The conventional report involved manual efforts and was tedious to work with running similar queries repetitively. The project aimed to eliminate the manual labour, and to enhance the report findings and comprehensiveness, maintaining clarity and completeness. The dashboard was visually exhaustive for quick understanding of the risk drivers and the risk utilisation. Other work at the station included regular BAUs (business as usual) tasks, which included contributing to regulatory/management risk reports.

Tool used (Development tools - H/w, S/w) : Python, tableau, other company's tools

Objectives of the project : To automate and publish a dashboard to for a legal entity

Major Learning Outcomes : Understanding of risk metrics and their significance along with gain of some coding acumen

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The culture is extremely friendly and learning rich. The peers are competent and experienced that will help greatly in absorbing immense knowledge they possess.

Academic courses relevant to the project : FRAM, OOP

Name: NAMAN AGARWAL(2020A4PS0842H)

Student Write-up

PS-II Project Title: Liquidity dashboard V2.0 & Automation of various tasks

Short Summary of work done during PS-II : In my first project during the internship, I extracted utilization data from an internal API, conducted intricate calculations, and subsequently developed a comprehensive Tableau dashboard. To optimize the utility of the dashboard, I implemented automation, enabling daily self-refreshing for real-time updates. The second project focused on elevating the Liquidity dashboard through the creation of a user interface utilizing the Jupyter Widget tool. Additionally, I contributed to the team's efficiency by developing an automated email system using Python for regular use. In conjunction with these major projects, I actively engaged in Business as Usual (BaU) tasks, employing Excel and Python for diverse purposes.

Tool used (Development tools - H/w, S/w) : Python, Tableau

Objectives of the project : Automation of various tasks

Major Learning Outcomes : I have learned many new technical skills including Python, Tableau, Jupyter widget tool, excel etc. Proficiency in Python allowed me to automate tasks and enhance data analytics, while the utilization of the Jupyter Widget Tool helped in creating interact

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : There is a lot of material covered and a high learning curve when it comes to market risk and financial products. Excellent work atmosphere where everyone is ready to assist you in times of need in the project or find it tough to comprehend any idea. Although there may be some deadline pressure, overall, it was a really productive experience. Additionally, don't be scared to ask questions of your team; they are really knowledgeable and helpful, and you could learn something new from them.

Academic courses relevant to the project : Derivatives and Risk Management,

PS-II Station : JPMS CIB R&A Banking (CRG) - Fintech , Mumbai

Faculty

Name: Uma Nagarajan

Student

Name: ADVANI MANISH RAJESH(2020A2PS2519H)

Student Write-up

PS-II Project Title: Process Automation

Short Summary of work done during PS-II : As a part of the Fintech team under CIB R&A CRG division at JP Morgan, the day-to-day task usually involves using Visual Basic for Applications (VBA) programming language to automate tasks in MS Excel, Powerpoint and Microsoft Outlook. Apart from this, relevant Python libraries were used to perform web scraping of various internal JPM websites

Tool used (Development tools - H/w, S/w) : Python (Selenium, Beautiful Soup, Pandas, Openpyxl), VBA

Objectives of the project : Automate various Ad-hoc and standard task using coding languages like VBA & Python to save analyst hours

Major Learning Outcomes : Python, VBA, attention to detail, prioritization, time management, expectations management

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work environment is really good. People are supportive and helpful.

Academic courses relevant to the project : None

Name: SAHIL VARMAN(2019B1A31017H)

Student Write-up

PS-II Project Title: DCM-IGF

Short Summary of work done during PS-II : My experience here at JP has been a roller coaster from the start and has nurtured and moulded me into a stronger and much calmer person. I am able to easily manage timelines for multiple projects seamlessly and incorporate my work into the bigger picture also very efficiently. I have learnt a lot from my team here in IGF. I have learnt a lot covering ratings, bod pricing, various derivative products, maintain and managing various client orderbooks. Speed also was another very important skill I have honed here at my time in JP as I am very familiar with excel and my speed for completing task which once took me 1-2 hours now are done in a matter of minutes. ATD is of prime importance in this line of work and should be taken very seriously.

Tool used (Development tools - H/w, S/w) : MS Excel, BBG, PPT and multiple inhouse JPMC softwares

Objectives of the project : Worked o the pricing of bonds, TLs and revolvers.

Major Learning Outcomes : ATD increase is a requirement for the job and is the backbone of the industry. I have also learnt what goes behind the pricing of a bond from the initial stage (IPT) to the final pricing.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : JPMC requires you to be very meticulous and have a very high ATD. The company expects students that are very hardworking and are able to work under tight deadlines and pressure. The company believes in learning on the go and responsibility is handed to you as you progress and gain your team's trust.

The right attitude and never give-up mentality is a must when it comes to IB and strong soft skills are also expected. Communication is key and drives the industry. Be ready to put in the long hours and work late into the night. As daunting as it may sound, it is a very good opportunity and one of the best learning experiences.

Your team will always support your curiosity as long as you show the willingness to learn.

Academic courses relevant to the project : BAV, DRM, FOFA, SAPM, FM

Name: AVINASHE ANSHUL AMOL(2020A1PS2536H)

Student Write-up

PS-II Project Title: Hedging Strategy Discussion and Analysis

Short Summary of work done during PS-II : The BAUs comprised of daily and weekly market updates on PE deals, FX and the Rates markets. The ad-hoc requests comprised of Peer Analysis, Asset Liability Management, Pricing and Backtesting of derivative products, Benchmarkings, working on Request for Proposal and Execution Decks, etc.

Tool used (Development tools - H/w, S/w) : Excel, PitchPro+, Bloomberg, Dataquery, Morgan Markets

Objectives of the project : The aim of the project was to suggest derivative instruments to a company to hedge their FX (Foreign Exchange) risks and IR (Interest Rate Risk). The company

faced these risks due to global operations which lead to the company dealing in multiple currencies and even issuing debt in varying currencies.

Major Learning Outcomes : Learnt a lot about the working of derivatives and all the related movements that take place in the FX and Rates markets.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment is good, but it is slightly difficult to maintain work life balance as the firm expects to work hard.

Academic courses relevant to the project : Fundamentals of Finance and Accounting, Derivatives and Risk Management, Financial Risk Analysis and Management, Security Analysis and Portfolio Management, Financial Management, Business Analysis and Valuation

Name: [P. K. ASHISH SRIVARI\(2020A3PS2126H\)](#)

Student Write-up

PS-II Project Title: Intern at FIG Asia-Pacific team, Sell side pitch of a Regional American Bank

Short Summary of work done during PS-II : We were to assist team members with their marketing projects, which were provided by bankers based in Hong Kong. We were to maintain excel backup files, and prepare pitch decks as our main tasks, along with periodic reports for bankers and clients. Also, we were given research work in the financial institutions domain, which will be compiled in the form of slides to be presented to bankers and clients.

Tool used (Development tools - H/w, S/w) : MS Excel, MS PowerPoint, Team-specific tools like FactSet

Objectives of the project : Day-to-day activities of the bank, To prepare a sell-side pitch for an American Regional Bank

Major Learning Outcomes : How banks, insurance and fintech companies and

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Good working environment with friendly and helpful team members, but with extended hours on average.

Academic courses relevant to the project : Fundamentals of Finance and Accounts, Business Analysis and Valuation, Financial Management

Name: [KEDAR KONEPAK\(2020A4PS1473H\)](#)

Student Write-up

PS-II Project Title: Sell-side pitch

Short Summary of work done during PS-II : Making decks (mainly marketing)

Tool used (Development tools - H/w, S/w) : Excel,PPT,FactSet

Objectives of the project : To prepare a sell side pitch for a company (or its segment) after using several valuations (DCF,comps) and by finding a potential buyer

Major Learning Outcomes : Valuation, buyer screening, profile, Investment rationale

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great learning curve, very supportive and encouraging staff

Academic courses relevant to the project : BAV,FM,FoFA

Name: VANAMALIN GUPTA(2020A4PS1837H)

Student Write-up

PS-II Project Title: Sell side pitch: Marathon Oil

Short Summary of work done during PS-II : I was part of the Centralized Research Group (CRG) at JPM. Company and equity research, profiles and deck making were some of my major tasks. My area of focus was Oil and Gas sector along with Renewables, Utilities and Metals and mining companies, and I was required to be updated with the current and future news and announcements of the companies. The final objective of our research, deck drafting and profiling was to execute merger and acquisition deals for the companies: Asset sales or company stake dilution. Also, I had worked on few weekly and monthly news products of JPM

Tool used (Development tools - H/w, S/w) : FactSet, Excel, PitchPro, Bloomberg

Objectives of the project : Preparation of a sell side pitch for Marathon Oil key assets in line with its expansion plans

Major Learning Outcomes : Deck Making, NAV Valuation, trading and transaction comparables

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The overall experience at my PS station was quite incredible in terms of learnings I got, connections I made and soft skills that I acquired. BITS, through the minor programme, had already enriched the

knowledge about the subject matter required at my PS and had aided to build a strong foundation and the final corporate friendly concept enhancement was provided by my initial trainings at JPM. My manager and team were really helpful, supportive and approachable at all times. My first corporate experience at JPM will always be cherished

Academic courses relevant to the project : Fundamentals of Finance and Accounting, Business Analysis and Valuation, Financial Management

Name: SRIDHARA SRI RAMA JAYANTH(2020A4PS2299H)

Student Write-up

PS-II Project Title: Real Estate Sector Investment Banking

Short Summary of work done during PS-II : From metrics update during results of companies we cover to research, deck making, financial modelling, benchmarking, everything other adhoc things which comes under IB support teams

Tool used (Development tools - H/w, S/w) : Excel, PPT, Factset, Eikon, Bloomberg, Public google resources

Objectives of the project : Support team for onshore IB team, involved sector analysis research in marketing deals for MnA, Equity or debt raises. Sale of segments etc

Major Learning Outcomes : Exposure to Investment Banking. Learnt to work under tight deadlines and long hours. Excel modelling and Presentations in PPT

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Team is good, mentor is very supportive. Intern activities are a regular thing. Working late nights long hours is expected. Team bonding is important to sustain.

Academic courses relevant to the project : Financial Management, BAV, FoFA

PS-II Station : JPMS CIB R&A Markets-Trading , Mumbai

Faculty

Name: Uma Nagarajan

Student

Name: AISWARYA M .(2019B3A70290P)

Student Write-up

PS-II Project Title: Trading and Structuring

Short Summary of work done during PS-II : Learnt everything about equity strategies

Tool used (Development tools - H/w, S/w) : Python, Excel

Objectives of the project : Develop trading strategy

Major Learning Outcomes : Python, fin strategies

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Really good

Academic courses relevant to the project : All financial courses

Name: ABHINAV TIWARI .(2019B3A70547P)

Student Write-up

PS-II Project Title: Structuring Team

Short Summary of work done during PS-II : Worked with two team 1. To develop bespoke index using python programming, rebalance index based on corporate action on underlying 2. To calculate payoff of structured products and later price these based on payoff

Tool used (Development tools - H/w, S/w) : Python programming

Objectives of the project : To give the precise pricing of structured products

Major Learning Outcomes : Index development, Python, Structured products

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Worked with two team

1. To develop bespoke index using python programming, rebalance index based on corporate action on underlying
2. To calculate payoff of structured products and later price these based on payoff

Academic courses relevant to the project : DRM, CP

PS-II Station : KAPIVA , Bengaluru

Faculty

Name: Uma Nagarajan

Student

Name: ARMAAN SHARMA .(2020A1PS1699P)

Student Write-up

PS-II Project Title: Create a WhatsApp AI Chatbot, that acts as an Ayurvedic doctor

Short Summary of work done during PS-II : Worked on 3 different projects, the first one dealt with creating a automated model using NLP and APIs that would find out trending topics from various social media platforms in the domain of ayurveda without having to manually surf through these sites. The 2nd and 3rd projects were similar. I created a Whatsapp chatbot powered by AI that had the knowledge of ayurveda and kapiva. The 3rd project was a simple data extraction tool for the chatbot responses using NLP.

Tool used (Development tools - H/w, S/w) : LLMs (gpt 3.5), Google Cloud Platform, Python, Whatsapp Business API

Objectives of the project : AI Chatbot creation

Major Learning Outcomes : - Python coding application
- Building AI/NLP models

Details of Papers/patents : No patents/ papers formed during the course.

Brief Description of working environment, expectations from the company : Great working environment, very informal and casual.

I did not have to wear semi formals, and the environment was stress free, and everyone in the office was approachable at all times.

Great work culture, would definitely recommend working here.

Academic courses relevant to the project : -DSA

-ML

-LLMs and AI

PS-II Station : Kapwise - Business Development , New delhi

Faculty

Name: Sidharth Mishra

Student

Name: Rohish Charaya(2019B4A20580P)

Student Write-up

PS-II Project Title: Marketing and Community Management

Short Summary of work done during PS-II : Our primary goal was to spread awareness about financial wellness and encourage people to engage in financial and goal planning for a secure future. To achieve this, we employed various methods, including content creation using AI tools.

Tool used (Development tools - H/w, S/w) : Utilized Canva, Lightroom, and Adobe Premier Pro for editing. Employed various AI tools for audio and video content generation.

Objectives of the project : Sales and Community Building

Major Learning Outcomes : Client Communication, Content Creation, and Team Management skills.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : In a remote setup, we conducted 3-4 weekly meetings to discuss project progress.

Academic courses relevant to the project : No academic courses I've taken are relevant to the project.

Name: PRANJAL VASHISHTHA .(2019B4A20680P)

Student Write-up

PS-II Project Title: Digital marketing

Short Summary of work done during PS-II : Worked on numerous digital marketing and business strategies to boost the sales of Kapwise products. Also managed and moderated the online community to increase retention.

Tool used (Development tools - H/w, S/w) : Excel, VideoScribe, Trello

Objectives of the project : Understanding the workings of marketing and increasing the conversion for Kapwise products

Major Learning Outcomes : Learned about digital marketing and managing an online community.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Good work environment but unacceptable amounts of stipend delay and lack of communication.

Academic courses relevant to the project : Principles of Management

Name: ABDULLAH ASHRAF(2020A1PS2395H)

Student Write-up

PS-II Project Title: Business Developer

Short Summary of work done during PS-II : As an email marketing manager intern, I gained hands-on experience, achieving a 60% growth in the subscriber list through strategic audience research, targeted content creation, and effective A/B testing. I honed skills in design, staying updated on industry trends, and analyzing competitors. Regular performance monitoring enabled me to enhance overall campaign efficiency, providing a comprehensive understanding of the end-to-end process.

Tool used (Development tools - H/w, S/w) : - Email Marketing Platform: Mailchimp - Graphic design tools like Adobe Creative Suite (Adobe Photoshop, Illustrator) and online tools like Canva. - integrated analytics features in email marketing platforms for monitoring key performance metric

Objectives of the project : To identify and rectify problems with email marketing

Major Learning Outcomes : 1. Successfully implemented a strategic approach to increase the email subscriber list by an impressive 60%.
2. Applied meticulous audience research techniques to inform targeted content creation for effective engagement.
3. Demonstrated proficiency in

Details of Papers/patents : NONE

Brief Description of working environment, expectations from the company : The company fosters a dynamic and collaborative work-from-home environment, emphasizing flexibility and autonomy. Interns are expected to exhibit strong communication skills and adaptability while working remotely. The company values self-motivation and the ability to meet deadlines independently. Clear and regular virtual communication channels are established, encouraging collaboration and knowledge-sharing. Interns are encouraged to actively participate in virtual

meetings, contribute innovative ideas, and demonstrate a proactive approach to problem-solving. The company promotes a supportive atmosphere, ensuring interns have the necessary resources and guidance for a successful remote work experience.

Academic courses relevant to the project : NONE

Name: SANGHAI DEVANSHU SHEKHARKUMAR .(2020A4PS0202P)

Student Write-up

PS-II Project Title: Business Analyst

Short Summary of work done during PS-II : CREATING A FULL FLEDGED STRATEGY FOR THE UPCOMING LEARNING PLATFORM CALLED KAPWISE ACADEMY. THIS INCLUDES IDEATION OF THE COURSE STRUCTURE, THE CURRICULUM AS WELL AS BRAINSTORMING ABOUT THE PRICING METHODS. RESEARCHING THE MARKET AS MUCH AS POSSIBLE IN ORDER TO ALIGN THE PRODUCT WITH CUSTOMER REQUIREMENTS. CREATING AN ONLINE WEBSITE WHERE USERS CAN COME AND LEARN ABOUT THE PLATFORM. WORK CLOSELY WITH DESIGNERS TO DETERMINE THE COLORS AND FONTS TO BE USED.CREATE A TIERED PAYMENT SYSTEM WHICH IS USER FRIENDLY AND FACILITATES UPSELLING.ADDITIONALLY, LINK THE SITE TO CONCERNED DOMAINS AND INSTALL PLUGINS THAT ENABLE US TO TRACK CONSUMER BEHAVIOUR. STRATEGIZING THE OVERALL MARKETING AND OPERATIONS FOR THE ACADEMY. WORKING CLOSELY WITH DESIGNERS, ANIMATORS, E-MAIL MARKETERS AND COMMUNITY MANAGERS TO CREATE AND PLAN CONTENT FOR MARKETING THE PLATFORM. COMMUNICATED WITH EDMINGLE FOR HOSTING AND OPERATIONS OF THE PLATFORM. PUSH THE CONTENT CREATED TO VARIOUS PLATFORMS AND COLLECT LEADS. CREATE A LOOPING FEEDBACK SYSTEM WHERE THE CONTENT PUSHED IS CONTINUOUSLY MONITORED AND UPDATED SO THAT IT IT ALIGNS WITH THE BUSINESS OBJECTIVE.

Tool used (Development tools - H/w, S/w) : Wix, Wordpress, Canva, Goggle suite, Trello and social media marketing platforms

Objectives of the project : ASSESS AND DEVELOP KEY AREAS THAT FOSTER THE OVERALL GROWTH OF THE BUSINESS.

Major Learning Outcomes : Developed core business development skills such as community development and marketing along with a some basic skills such as leadership, teamwork and effective communication, through which corporations function.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The mentorship at my PS station has been super helpful and has managed to expand my knowledge not only in terms of business development but also leadership, teamwork and effective communication. The founder of the company Mr. Aayush Aggarwal has personally helped me in various phases on the program and inspired me to develop a problem solving mindset myself.

I do feel that this opportunity has equipped me with the necessary skills and the confidence to pursue a successful professional career ahead.

Academic courses relevant to the project : GS F344 COPYWRITING

GS F241 CREATIVE WRITING

GS F331 TECH IN SOCIAL RESEARCH

GS F232 INTRODUCTORY PSYCHOLOGY

PS-II Station : Kapwise - IT , New delhi

Faculty

Name: Preethi N. G

Student

Name: SAKETH VARMA AVANIGADDA(2020AAPS1020G)

Student Write-up

PS-II Project Title: Kapwise Technology and Full Stack Development

Short Summary of work done during PS-II : During my internship at Kapwise, I held a dual role that extended beyond Software Development Engineering. Engaging in various technological projects, I played a pivotal role in the development of an e-commerce website, orchestrated API integrations, and contributed significantly to the creation of Forenpay and Forenpe websites. In addition to my primary SDE role, I assumed responsibilities in business development, creating over 20 illustrations for community engagement, refining our financial product, and crafting compelling product pitches for external partners. This diverse portfolio of projects allowed me to seamlessly integrate technical expertise with a keen understanding of business needs.

Tool used (Development tools - H/w, S/w) : Python Django,HTML, CSS, Java Wordpress, Shopify, Canva, API, Figma

Objectives of the project : Create multiple Web development projects and API intergrations to boost the companys online presence

Major Learning Outcomes : Improved my web development and software integration skills

Details of Papers/patents : No patents

Brief Description of working environment, expectations from the company : During my time at Kapwise, which spanned from August to December, I worked remotely from home. As a Software Development Intern, my role involved creating new websites, auditing the existing site, and enhancing API technologies while fixing bugs. I also took on a Business Development role,

contributing to improving Kapwise's product and brand. While the experience was overall decent, our daily meetings became less frequent over time, and tasks were assigned to all interns. There were some slight delays in payments, and the pace of work slowed down a bit towards the end of the internship.

Academic courses relevant to the project : C++, OOPS

PS-II Station : KFin Technologies Private Limited , Hyderabad

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: DHRUV MEHTA .(2019B2A10880P)

Student Write-up

PS-II Project Title: MFCentral and Loan against Mutual Funds

Short Summary of work done during PS-II : I handled the products MFCentral and Loan against mutual funds end to end, from new developments enhancing existing products and business development.

Tool used (Development tools - H/w, S/w) : Excel, postman, miro, figma, AWS

Objectives of the project : Growing and building the API business of the company

Major Learning Outcomes : - Client Handling

- Product Management
- Business Development

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work environment is good, and the people are helpful. The company is at the core of the mutual fund world and offers deep exposure into the process. The leadership is extremely capable and always support you to push yourself and grow.

Academic courses relevant to the project : NA

Name: AIKAGRA AGARWAL .(2020A1PS0294P)

Student Write-up

PS-II Project Title: Alternate Investment Funds - AIF

Short Summary of work done during PS-II : I worked on the backend REST APIs development using Node.js and hosted on AWS Lambda. Our task was to modify existing APIs such that they are more dynamic and reusable for different transaction modules in AIFs. These APIs communicated with SQL as well as NoSQL databases like MongoDB and PostgreSQL and were used for putting, updating and fetching data.

Tool used (Development tools - H/w, S/w) : S/W - Node.js, SQL, AWS Lambda, MongoDB, PostgreSQL.

Objectives of the project : Cloud-based web application development for the facilitation of fund accounting of AIFs

Major Learning Outcomes : Technical skills like Node.js, SQL, AWS and API development as well as soft skills like communication and decision-making.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work environment was very friendly as the entire team was just 1-2 years older and there were freshers as well. The people were very approachable, helpful and always ready to cater to any doubts in my learning journey.

Academic courses relevant to the project : DSA, OOP

Name: ANOUSHKA THAKUR(2020A1PS2062G)

Student Write-up

PS-II Project Title: Product Management Intern

Short Summary of work done during PS-II : During my product management internship at KFin Technologies, I had the opportunity to work on a diverse range of projects and products that provided me with invaluable insights and experiences in the field of product management. One of the key highlights of my internship was the chance to handle multiple products, including the distributor empanelment portal for Axis, Bajaj, Old Bridge, LiquiLoans, Neo Bank, and the Group SIP portal. Managing such a wide array of products allowed me to develop a comprehensive understanding of the intricacies involved in product lifecycle management, from conception to delivery. A particularly rewarding aspect of my internship was leading the development of the Learning and Development Centre for distributors at KFin from scratch. This project involved creating a platform that would empower our distributors with the knowledge and tools they needed to excel in their roles. I was responsible for defining the project scope, identifying key features, and collaborating closely with cross-functional teams to ensure its successful implementation. In addition to these major projects, I gained exposure to various financial products, such as NPS (National Pension System) and AIFs (Alternative Investment Funds),etc.

Tool used (Development tools - H/w, S/w) : Excel, Figma, Draw.io

Objectives of the project : Multiple projects - Objective was to either take over daily operations of an existing SaaS product or initiate the wireframing and plan implementation of a new product.

Major Learning Outcomes :

1. Understanding of fintech industry dynamics and trends.
2. Proficiency in utilizing product management tools and methodologies.
3. Experience in market research and analysis for financial products.
4. Collaboration with cross-functional teams including

Details of Papers/patents : I did not have to make a paper as it was not a research based internship.

Brief Description of working environment, expectations from the company : The working environment at KFin offers a balance between manageable workloads and supportive management. While the pace of work is generally steady, resource shortages in the IT sector occasionally slow down progress. Despite this challenge, the management maintains a fair and approachable demeanor, ensuring employees feel valued and heard. As my role often revolved around delivering products promptly to meet client demands, delays arising from resource scarcity were not uncommon. I believe KFin offered me hands-on experience in the domain of product management, which I don't think most other companies would do, especially for interns. However, I do have to admit that there is not a large learning curve. If you are expecting to gain knowledge from your superiors and develop a good portfolio for your future, it is not the best place for that. You will undoubtedly pick up soft skills but it will be mostly need-based and non-transferable for other sectors.

Academic courses relevant to the project : Finance courses will be extremely helpful. Coding is not required unless to check an existing code or if a developer is unavailable.

PS-II Station : KiranaKart Technologies (Zepto) , Mumbai

Faculty

Name: Pravin Yashwant Pawar

Student

Name: ROHIT KUMAR(2020A4PS2352H)

Student Write-up

PS-II Project Title: Pricing Automation

Short Summary of work done during PS-II : In this comprehensive project, our primary aim was to engineer an automated pricing engine from scratch, employing Python's capabilities. Through intricate coding and data analysis, we aimed to not only automate pricing but also to fine-tune strategies that resonated positively with customers' purchasing behavior. Our meticulous approach sought to harmonize competitiveness and profitability, ensuring that every pricing decision not only attracted customers but also contributed to the company's bottom line. By seamlessly integrating data analysis and strategic pricing, our intent was to empower the company to navigate market fluctuations swiftly, using pricing as a strategic lever to foster continuous growth and market prominence.

Tool used (Development tools - H/w, S/w) : Excel, GSheet, Python, R, MSTR, Airflow

Objectives of the project : Implement automated systems to streamline pricing calculations, adjustments, and updates, reducing manual effort and time consumption, which also in turn improves the accuracy.

Major Learning Outcomes : Technical Proficiency

Data Analysis Skills

Decision-making Skills

Problem-solving Abilities

Dashboarding

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Expectations from the company revolved around promoting employee well-being, open communication, and a healthy work-life balance. There's a culture of mutual respect, collaboration, and encouragement where individuals were empowered to voice their opinions and ideas. The company values a proactive approach to problem-solving and innovation while prioritizing employee health, both mental and physical. Overall, It was a very encouraging work environment.

Academic courses relevant to the project : Machine Learning

Engineering Optimization

Data mining in Mechanical Sciences

DSA

DBMS

PS-II Station : Klinik Everywhere Technologies Pvt. Ltd. , Chennai

Faculty

Name: Pradheep Kumar K

Student

Name: ARINDAM BANDI(2019B5A80258G)

Student Write-up

PS-II Project Title: SpotCare Web Application

Short Summary of work done during PS-II : Made dashboards for organization admins to show data and also for the admins to change any settings related to their organization. Made various small changes in the kiosk device related settings and data that it shows. Made a few changes for the about page of the company as a first task. Made features to add and set locations for organization admins for the

Tool used (Development tools - H/w, S/w) : Angular, postman, bitbucket

Objectives of the project : To make a easily to use and responsive webapp to connect doctors to patients via video call and manage organizational settings for the organization admins, portals for doctors, patients, nurses and admins

Major Learning Outcomes : Angular, HTML, CSS, Node

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very beginner friendly environment, saturday is working but that is fine

Academic courses relevant to the project : OOPs

PS-II Station : KPMG , Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: UTSMAY KUMAR(2020A8PS0881G)

Student Write-up

PS-II Project Title: Dr. YSR Aarogyasri Health Insurance Scheme

Short Summary of work done during PS-II : I was involved in learning various technicalities before contributing towards the main project. Learning react.js was one of the major tasks, this was possible with glances of CSS, HTML, and JavaScript alongside React.js. My first half of internship was involved in developing the front-end integration of the website which has been deployed by KPMG, prior the first half, I was involved in additional subsidiary projects which involved more technologies like Flutter (using dart), and Ethereum (using solidity). The later stage of the internship involved me doing manual software testing for a small module of the project in development.

Tool used (Development tools - H/w, S/w) : Framework- React.js, Flutter, Node.js, Ethereum
Languages - HTML, CSS, JavaScript, Dart, Solidity
Software - VS Code, Android Studio, Postman, Microsoft Excel

Objectives of the project : To develop a digital implementation of Dr. YSR Aarogyasri Schemes which have been launched by the government of Andhra Pradesh to provide

Major Learning Outcomes :

- 1.To be able to develop front-end designs and integrate them with a backend server.
- 2.To be able to do manual software testing of a deployed module, and write test cases for the same.
- 3.To be able to develop smart contract and deploy the same
- 4.Understand

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was good, the team that I was working on had over 40 members. The base location was in Vijayawada in Andhra Pradesh, due to which some members were working from the client location, and others from their respective homes. We used to have meetings every alternate day where there was a module update of each team, there was regular feedback taken, and the culture was very open. It was a nice environment to work in, with regular exchanges with managers and

senior executives, that certainly helped in giving lot of insight towards ongoing work, and many valuable inputs in presenting and communicating in the corporate sector.

Academic courses relevant to the project : Object Oriented Programming, Introduction to C

Name: SHREYA KUDUMALA(2020A4PS1323H)

Student Write-up

PS-II Project Title: KPMG Education & Skilling Advisory

Short Summary of work done during PS-II : While I was initially supporting the team in secondary research for various projects, I gradually assumed more responsibilities as my internship progressed. This included contributing to an impact assessment study, developing learning solutions, and data analysis for market studies. I engaged in the entire lifecycle of these projects, from conceptualization to execution, gaining valuable insights into the intricacies of advisory in the process.

Tool used (Development tools - H/w, S/w) : Microsoft Office, SurveyMonkey

Objectives of the project : The objectives of the project were to actively contribute to KPMG Chennai's Government and Public Services advisory projects within the Education and Skilling Department. This included conducting market studies, developing learning solutions, and assessing the impact of Government schemes. The overarching goal was to provide strategic insights and recommendations to enhance the efficiency and effectiveness of educational programs and services.

Major Learning Outcomes : Over the course of my internship, I improved my project management abilities by handling diverse projects, and I learned effective communication and collaboration with clients and stakeholders. The experience deepened my understanding of advisory in the e

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work environment was extremely supportive and collaborative, with the team always being helpful and approachable. The company expected active involvement in projects, collaboration with team members, and delivering work with quick turnaround times. Occasionally some overtime work is expected, but the experience is worth it.

Academic courses relevant to the project : Knowing the basics of management and finance may be useful, but not necessary.

Name: CHIRAG MATAI .(2019B1A80969P)

Student Write-up

PS-II Project Title: Government and Public Services - Education Skills: Ministry of Education Project

Short Summary of work done during PS-II : During my internship, I tackled various tasks falling into three main areas: Research, Data Analysis, and Data Presentation. Initially, I helped organize a competition for MyGov to promote the National Education Policy. This involved sifting through entries, selecting suitable ones for promotion, and understanding client expectations. For National Digital University Project, I collated the data of online education & distance learning universities across India, students enrolled, the programs offered, and their price points. Secondary research also included the status of internet penetration across Indian states and the availability of devices for even using online education services. Later, I delved into dissecting education budgets for different states, creating simple 'report cards' summarizing their spending trends. This meant looking into reports, press releases and government websites for details, refining my skills in understanding and interpreting budgets. A significant chunk of my work involved analyzing NAAC accreditation in Bihar's Higher Education Institutions. This required sorting and evaluating data to identify areas where these institutions could improve their

scores. I organized information into databases and drew actionable insights to suggest potential improvements in the NAAC Score of these HEIs.

Tool used (Development tools - H/w, S/w) : Excel , PowerPoint, Search Engines

Objectives of the project : The project aimed to assist in organizing a competition for MyGov, prepare comprehensive state budget profiles analyzing education expenditure trends akin to report cards for each state, and organize and analyze information regarding NAAC accreditation status in Bihar's Higher Education Institutions (HEIs) with a focus on improving their NAAC scores.

Major Learning Outcomes : Handling Diverse Projects: Engaging in tasks ranging from competition management to detailed budget analysis and accreditation evaluations.

Data Handling Skills: Working extensively with large datasets, Excel tools, and various research resources.

Underst

Details of Papers/patents : N.A

Brief Description of working environment, expectations from the company : It was completely Work From Home for me, however it depends on your team. My manager was supportive, encouraged asking questions and provided feedback. The company expects you to do a lot of research work and be able to summarize that concisely and derive insights from it. It was a great learning experience and projects were high quality owing to KPMG's brand name and clientele.

Academic courses relevant to the project : None

Name: Aman Patnaik(2020A1PS1707P)

Student Write-up

PS-II Project Title: Foreign Higher Education establishment in India

Short Summary of work done during PS-II : It was quite good and with a lot learning outcomes

Tool used (Development tools - H/w, S/w) : MySQL, MS-Excel, IDLE

Objectives of the project : - Building Financial and Operating model for the Institutions, Market Assesment of all the engagements, Competitor Analysis etc.

Major Learning Outcomes : Financial Modelling, DBMS, Data Analysis, Market Understanding etc.

Details of Papers/patents : No papers/patents as such

Brief Description of working environment, expectations from the company : Good and cooperative

Academic courses relevant to the project : Financial Management, Business Analysis, DBMS.

Name: BASUDEBA JHA(2020A1PS1979G)

Student Write-up

PS-II Project Title: Assam Skills University

Short Summary of work done during PS-II : The objective behind Assam Skill University is to provide advisory services on all aspects of establishing the university as well as launching it. It is a four year long project that started in May 2023. Within this project, it has been my responsibility to help define the constitution, powers and conduct of various officers and authorities of the university. Along with this, I provided marketing and faculty recruitment strategies for the launch of the campus.

Tool used (Development tools - H/w, S/w) : Word, Excel, PowerPoint

Objectives of the project : Launch of Assam Skills University

Major Learning Outcomes : Organisation structure of a university, Marketing and public relations strategy of a university, Faculty recruitment strategies

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very accommodating fast paced environment with lots to learn. Office is great and the co workers are kind. Plenty of opportunities for growth and learning.

Academic courses relevant to the project : NA

Name: VAISHNAVI BHARADWAJ(2020A8PS1125G)

Student Write-up

PS-II Project Title: Market research on Green Hydrogen

Short Summary of work done during PS-II : The projects I worked for revolved around the Sustainability and RE sector, particularly -Green hydrogen. After initial involvement in developing the GHIC for launch at India's G20 presidency, I spearheaded the project revolving around the updation of the portal with daily updates about the hydrogen industry across the globe. My projects required in depth market research on various domains linked with sustainability like Net Zero targets and Decarbonization measures employed in different countries and what India can learn from them.

Tool used (Development tools - H/w, S/w) : MS Word, Powerpoint and Excel

Objectives of the project : To research about green hydrogen and find information for the GHIC portal

Major Learning Outcomes : Learnt about CV developing
Learnt about the Hydrogen market and sustainability scenario

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : KPMG Gurgaon has a massive office with great interiors and comfortable sitting space. The work environment and timings differ from team to team. I worked in the Transformations Power and Utilities sector and had a lovely team with each member acting as a mentor.

The office timings are flexible and the intensity of work varies from project to project and week to week.

Overall a great corporate experience!

P.s.- Don't forget to try out the hot chocolate in 4th floor cafeteria- its delicious and free :)

Academic courses relevant to the project : None

PS-II Station : Legistify Services Pvt. Ltd. - Non IT , Gurugram

Faculty

Name: Uma Nagarajan

Student

Name: DHRUV DUGAR .(2020A1PS1322P)

Student Write-up

PS-II Project Title: Detection of Image Infringement in Trademarked Images

Short Summary of work done during PS-II : Researched upon finding methods to find similar images using various methods including Perceptual Image Hashing, OpenAI's Contrastive Image Pretraining Models, and storing the vector images in a database. We also used AWS's Rekognition to find the features of the same images, and provide that information to the clients. We also created a Property Tracking Tool in which we used Django to store all the details of the property, and generate logs and MIS of the same.

Tool used (Development tools - H/w, S/w) : OpenAI CLiP, Qdrant.tech, Perceptual Hashing, Django, AWS EC2, Solr, AWS Rekognition

Objectives of the project : Finding images which have applied for trademark but infringe upon existing trademarks of the images using Machine Learning

Major Learning Outcomes : I learned how to research various methods for interesting solutions, finding methods to search for image similarity, and implementing solutions like Image Hashing, Using OpenAI's pre trained models to generate vector embeddings for all the images and stor

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Company work culture is quite good, and being a startup there is a lot of interesting projects on which we get to work on, and there are frequent company outings and really engaging culture. We also got to interact with the founders of the company on a very candid and frank basis.

Academic courses relevant to the project : -

PS-II Station : Legistify Services Pvt. Ltd. - Tech , Gurugram

Faculty

Name: Gopalakrishnan Venkiteswaran

Student

Name: PATEL RUDRESH KETANBHAI .(2020A8PS1820P)

Student Write-up

PS-II Project Title: Judicial Data Harvest: Empowering Legal Analysis with Python Web Scraping and Database Management

Short Summary of work done during PS-II : In conclusion, our Python-based web scraping project, coupled with the development of APIs, has proven to be a highly valuable undertaking with significant practical applications. Leveraging libraries like BeautifulSoup and Requests, we successfully extracted and processed data from diverse websites, facilitating the generation of valuable insights. Automation played a pivotal role in saving time and effort, ensuring up-to-date data with minimal human intervention. Our commitment to data integrity is evident through the implementation of error handling mechanisms, making the scraping process robust. The subsequent development of APIs using frameworks like Flask or Django enhances accessibility for users while sparing them the complexities of web scraping. Ethical considerations, adherence to website terms, and a mindful approach to server requests underscore our commitment to data privacy. Security measures, including authentication and authorization in our APIs, contribute to safeguarding data storage and transmission. Scalability remains a core feature, allowing seamless expansion to accommodate more data sources and users. By introducing a courier feature for clients, we've added substantial value to our project, fostering business growth. In essence, our project not only exemplifies the efficiency of web scraping and API development but also underscores the significance of responsible data usage. This initiative contributes to the broader data ecosystem, showcasing the power of automation and data accessibility in the digital age. As we progress, staying abreast of best practices and legal regulations is imperative for the sustained success and ethical operation of our endeavor.

Tool used (Development tools - H/w, S/w) : Python, VS code editor, Redis client, Confluent Kafka, Luna Proxies.

Objectives of the project : Web Scraping and automation of the whole process

Major Learning Outcomes : Web Scraping, AWS S3, Apache Kafka, SQS

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Our working environment thrives on a foundation of technological innovation and data-driven methodologies. Within the company, we foster a culture of collaboration and continuous learning, where team members are encouraged to explore and implement cutting-edge solutions. The successful execution of our Python-based web scraping project and API development underscores our commitment to excellence.

We expect the company to recognize and support our efforts in staying at the forefront of technological advancements. This includes providing access to resources for ongoing training and development, ensuring that our team remains equipped with the latest tools and techniques. Emphasizing a balance between autonomy and collaboration, we anticipate a work environment that values initiative and encourages the exchange of ideas.

Moreover, we look to the company for a commitment to ethical and responsible data practices. This involves fostering an awareness of legal regulations and industry standards, promoting a culture of integrity in data usage. As we continue to scale our project, we expect the company to invest in infrastructure expansion and security measures, ensuring the seamless growth of our web scraping and API initiatives.

In summary, our expectations revolve around a dynamic and supportive working environment that champions innovation, encourages continuous learning, and prioritizes ethical considerations in the realm of data technology.

Academic courses relevant to the project : OOPS

Name: JULIO GUSTAVO FERNANDO SA(2020AAPS1052G)

Student Write-up

PS-II Project Title: Data Insights and Text extraction from images

Short Summary of work done during PS-II : Started with basic analytics of data, moved on to find data sources for leads. Next was automating the lead accumulation process. Apart from this, I worked on a tool to extract text from images, using tesseract and image pre-processing. Worked with large files which required splicing before the application of OCR engine on each page to extract case details as plain text. Apart from this worked on competitor analysis for our tool.

Tool used (Development tools - H/w, S/w) : Google Sheets, Excel, python and its libraries.

Objectives of the project : Create a pipeline for data distribution to sales and marketing team. Structuring data storage. Text extraction from scanned pdf images

Major Learning Outcomes : Data Querying, Data base design, image processing

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very close and friendly Start-up environment where seniors are always willing to help and allow you to learn and grow. Being a startup there is also many projects you can work on and learn different skills working on different parts of projects.

Academic courses relevant to the project : Digital Image Processing

PS-II Station : LightSpeed Photonics Pte Ltd , Secunderabad

Faculty

Name: Madhuri Bayya

Student

Name: PRANAV G(2020A3PS1602G)

Student Write-up

PS-II Project Title: Inter Chip Free Space Optical Interconnect Testing Lightkonnnect™ - validation, Optical Alignment and Qualification.

Short Summary of work done during PS-II : Over the course of the entire internship, a thorough knowledge of Free Space Optical (FSO) communication systems was built, with a focus on LightKonnnects, sophisticated optical interconnects that make use of the I2C protocol. During the internship, register settings for LightKonnnect™ components were configured, with the microcontroller acting as the slave and the LightKonnnect™ as the master. In addition, hands-on experience in fundamental electronics, including PCB power testing and soldering, as well as expertise in optics-related concepts like alignment and beam diameter, and also board designing and assembly, were learned. Application of signal processing methods, such as equalisation, peaking, and pre-emphasis, designed for various frequency ranges, took up a sizeable amount of the internship. Through this internship, I gained a comprehensive understanding of optical communication systems with a focus on actual application.

Tool used (Development tools - H/w, S/w) : Stm32, High speed test PCB interfaced using fmc connectors, Function generator, Spectrum analyzer, solder kit, INA219, arduino nano, LTspice, KiCad, Arduino IDE

Objectives of the project : To establish optical alignment of LightKonnnect™ and hardware testing

Major Learning Outcomes : Hardware testing, I2C communication, Optical alignment, PCB design and assembly

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : A great working environment, with supportive colleagues. Dedication and hard work is expected from the company.

Academic courses relevant to the project : Electronic Devices, Microelectronics, Microprocessors, Signals and systems

Name: CHITHAMBARASH S E(2020AAPS1741G)

Student Write-up

PS-II Project Title: FPGA programming, Pcb design and layout

Short Summary of work done during PS-II : Throughout this PS2 internship, I have gained valuable insights into the process of creating PCB designs prior to their submission for fabrication. I also got hands-on experience in utilizing professional design software such as DipTrace. Furthermore, I developed an understanding of the extensive utilization of FPGAs within the industry and also learnt about FPGA programming in SYCL and its application in substantial data computations

Tool used (Development tools - H/w, S/w) : Diptrace, Fpga, Oneapi

Objectives of the project : Super speed USB 3.0 connector for Image sensor. Testing and benchmarking of SYCL programs on Intel oneAPI for FPGA.

Major Learning Outcomes : Hands-on experience in utilizing professional design software such as DipTrace.

Learnt about FPGA programming in SYCL and its application in substantial data computations.

Working in a team.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Friendly and supportive working environment. Good work life balance.

Academic courses relevant to the project : Microprocessors/Microelectronic circuits, DSA/Programming

PS-II Station : Lohum Cleantech Pvt. Ltd - Nontech , Greater Noida

Faculty

Name: Nithin Tom Mathew

Student

Name: KUSHAGRA GUPTA .(2020A1PS1706P)

Student Write-up

PS-II Project Title: Optimization of Parameters for the production of NMC 811

Short Summary of work done during PS-II : The project aim was to find the parameters for the synthesis of best electrochemical NMC811. Around 300 data points were gathered from the 350-400 research papers. On these research papers, different ML algorithms were applied. Among which Gradient boosting algorithm gave the minimum rmse of 2.79. The learning from this project was about the chemistry and industrial aspects of the lithium ion batteries. How lithium ion batteries are made, and what will be there impact on the environment.

Tool used (Development tools - H/w, S/w) : Google Colab, Excel, Python

Objectives of the project : The objective of the project was to find the best suitable for the synthesis of NMC811 (CATHODE ACTIVE MATERIAL FOR LITHIUM ION BATTERIES), which will give the best electrochemical properties.

Major Learning Outcomes : The major work for this project was in terms of research. For ML modelling, 300 data points were gathered from 350-400 research papers about the synthesis of NMC811.

Details of Papers/patents : Many research papers and patents were used in this project.

Brief Description of working environment, expectations from the company : Working environment of company was good. Every weekend presentation was to be presented to the mentor.

Academic courses relevant to the project : Chemical CDC's, ML, Finance

PS-II Station : LTIMindtree , Chennai

Faculty

Name: Pradheep Kumar K

Student

Name: PARTH FALGUN CHOKSHI(2020A8PS1501G)

Student Write-up

PS-II Project Title: Edge Platform Implementation

Short Summary of work done during PS-II : ReactJS Web Development for edge computing project. I made 4 webpages within the project and integrated the REST APIs for the SQL backend.

Also has a chance to develop REST APIs for the same project. I got hands on learning on on-field IoT devices and how information flows through various levels of IoT and aggregation of the information.

Tool used (Development tools - H/w, S/w) : Various IoT communication protocols, PLCs, Docker, PostgreSQL, NodeJS, ReactJS, Python, HTML, Material UI, IoT gateways.

Objectives of the project : Implementation of Edge level computing for IoT

Major Learning Outcomes : Learnt industry applications of IoT, Edge computing and Web Development

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The work environment is really encouraging and healthy. The team was really motivating and put great emphasis on team work. There was ample help on learning the software and hardware required for work. The work environment is really encouraging for learning new skills.

Academic courses relevant to the project : Industrial Instrumentation and Control

PS-II Station : Mach33.aero , Bengaluru

Faculty

Name: Amar Singh

Student

Name: ARNAV DANI .(2019B2A10871P)

Student Write-up

PS-II Project Title: Bug fixing and Data transfer - Airtable to OIP

Short Summary of work done during PS-II : i wrote python script to transfer data automatically from airtable to OIP where airtable is an app where they store all their data and OIP is the website for their users and organizations that are partnered with Social Alpha. The other was to fix bugs in the OIP platform that users were encountering while using the platform.

Tool used (Development tools - H/w, S/w) : Java, excel, Python, HTML, CSS, json

Objectives of the project : To fix the bugs present in the OIP platform and to transfer data from airtable to OIP using API based code script

Major Learning Outcomes : Understanding of Programming languages, database of the org's website, process of budget and expenses of the org

Details of Papers/patents : No papers and patents were published

Brief Description of working environment, expectations from the company : The work environment of the company was very positive. Everyone in the organization was very helpful and friendly and gave us good guidance for our social and work life. My project was given to me based on my interest, I was given ample of time and space to work on it.

Academic courses relevant to the project : Computer Programming, Principle of Economics

Name: SHREYA KHARE .(2019B2A10999P)

Student Write-up

PS-II Project Title: Deal Pipeline Development, Thesis Preparation, Market and Competitor Analysis

Short Summary of work done during PS-II : To develop pipeline of start ups that are related to the the domain the team has been working on so that they can come across startups that can be incubated or invested in. Mainly the startups should be working for bringing about circularity in lifecycle of a product or an industry. 2. Thesis development was vital to the organization as it helps them evaluate the startups that are seeking incubation and investment also acts as a learning document. The thesis I worked on were AI/ML in waste management, the secondary research was done by me. It will be further taken up by the people in the institution. The second thesis that we worked on was Water in textile industry, the water and energy used in the industry and come up with problem statement related to it.. 3. It is essential to know the scope of a startup success through market analysis and competitor landscape. Some of the start ups that I helped with were Rang Bio, Golden Feathers

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : To develop pipeline of start ups that are related to the the domain the team has been working on so that they can come across startups that can be incubated or invested in. 2. Thesis development was vital to the organization as it helps them evaluate the startups that are seeking incubation and investment also acts as a learning document. 3. It is essential to know the scope of a startup success through market analysis and competitor landscape.

Major Learning Outcomes : Report Writing, Thesis writing, Research Abilities, Understanding of Importance and learning how to do a market and competitor analysis for a start up or a business. Came across a lot of Indian startup which are working in Circularity domain in India. Sof

Details of Papers/patents : None that were published

Brief Description of working environment, expectations from the company : This is a good company for those who want to understand the start up ecosystem in India. This company in particular deals in a niche market where they fill the gap between lab scale innovation and the need for innovation needed in the market. Can get to work on your project as well as follow your seniors and learn from them. Good Exposure and great learning opportunities. Good work life balance.

Academic courses relevant to the project : None

Name: MANAN MUKHERJEE .(2019B5A40716P)

Student Write-up

PS-II Project Title: Investment and Portfolio Management

Short Summary of work done during PS-II : The deliverables to the organization as a part of this internship have primarily been pipeline generation & assisting the company in technical evaluation of various startups. Apart from that, I have also worked on the technical, investment and competitive landscapes of various startups, for helping the company understand whether startups are a thesis-fit or not. Most of my work was centred around startups building e-tractors, e-bikes and axial flux motors.

Tool used (Development tools - H/w, S/w) : Google sheets, word

Objectives of the project : Exploring Axial Flux Motor Technology: A significant goal of the project was to explore the potential applications of axial flux motor technology in not just electric vehicles, but also into industrial and household appliances, consumer electronics, and more. The aim was to reveal the inherent challenges faced by axial flux motors and understand why radial flux motors have been more widely adopted. Analyzing Carbon-Neutral Fuels: This objective was centered around the analysis of carbon-neutral fuels in the context of sustainable mobility. The internship sought to assess the economic and environmental viability of these fuels, particularly in comparison to conventional fuel sources. Building Business strategies for aiding the investment process, generating startup pipeline by scrutinizing various incubators throughout the country & building the motor and e-tractor thesis were the primary tasks of this internship.

Major Learning Outcomes : Investment, startup culture, climate issues, sustainable mobility

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment is quite comfortable and friendly. All the company employees are more than ready to help you and teach you new things. The working hours are flexible too. There is an option of working from home in case it is required. Recommended if you want to learn about startup culture and what it takes to invest in a startup.

Academic courses relevant to the project : Automotive Vehicles, Manufacturing processes, Engines Motors Mobility (EMM)

Name: ABU ZAR TALIB(2020A8PS0562G)

Student Write-up

PS-II Project Title: Product and Investment Insights

Short Summary of work done during PS-II : VC Thesis: Do opportunity analysis of the Indian Downstream Space Sector to generate investment insights into applications, ticket sizes, etc. Work on the OIP comprised of designing features to increase the platform's engagement and retention.

Tool used (Development tools - H/w, S/w) : Whimsival, Airtable, Zapier, Docs

Objectives of the project : Fix the firms open innovation platform, design features. make a VC Thesis for Downstream Space Industry

Major Learning Outcomes : Exposure to venture capital, venture development
Product Management basics, User Research, Documentation

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : very supportive working environment, high ownership and freedom, no politics and team members really know their stuff.

Academic courses relevant to the project : -

PS-II Station : Mahindra Logistics limited , Mumbai

Faculty

Name: Sandeep Kayastha

Student

Name: NILAY SHRIVASTAVA(2019B4A31301H)

Student Write-up

PS-II Project Title: Meru Flutter Consumer App

Short Summary of work done during PS-II : I had to develop the frontend in Flutter for an already existing backend currently being used in the Meru Cabs app. Referencing the original project, I replicated the UI and app flow in Flutter. The project mainly required programming API calls, as most of the data comes from the backend. Replicating the UI was also a good learning experience, since I learned a lot about how specific components interact with each other.

Tool used (Development tools - H/w, S/w) : Android Studio, Postman

Objectives of the project : Migrating the Meru Java codebase to Flutter

Major Learning Outcomes : Frontend development in Flutter

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment was good, my team lead and coworkers were always happy to help with any doubts.

Academic courses relevant to the project : Object Oriented Programming

Name: AMEY AGARWAL .(2019B4AB0731P)

Student Write-up

PS-II Project Title: Finance Intern- Analysis, Ideation, and Presentation

Short Summary of work done during PS-II : During my internship I had quite a few projects, and not a single designated task. Project 1- Process Improvements- Understand and suggest improvements in the internal operations of B2B and B2C segments. P2- Supply Analytics- Analyse the supply rates of our services across India across various factors. P3- Create the format of a ledger within our employee app. P4- Manage and track the B2C revamp project. P5-Coupon Analysis- Analyse the various coupons provided to customers by the company and based on their success, suggest the ones to continue in the future. P6- Create the budget deck to be presented to the board. P7- Create an automated invoice tool, which converts billing data from a single column and converts it to a printable invoice. P8- Create the SOPs of the commercial processes of the company

Tool used (Development tools - H/w, S/w) : MS Excel, MS Word, MS PowerPoint

Objectives of the project : Supply rates analysis, B2C revamp, Coupon Analysis, Budget Deck, SOPs, Invoice and ledger formations

Major Learning Outcomes : Features of MS Excel, Analysis and presentation,

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : I reported mainly to 2 managers- GM Finance (my mentor) and the Vice President. For some projects, I reported to the CEO as well. Most of my projects were individual, however the entire commercial and finance team was present in the office during work hours. It was acceptable to approach any of them for any queries/suggestions for any project, and to ask them for any data needed. Often I was required to obtain data from other branches for which I would communicate with them through MS Teams. I was allowed to visit the offices of the GM Finance and Vice President for review and guidance at all times, depending on their availability.

I was expected to have understanding and fluency in MS Excel, MS PPT, and MS Word. Apart from that, the business model and operations of the company were explained to me by my mentor and various employees at the company.

Academic courses relevant to the project : Operations Management, Supply Chain Management, Fundamentals of Finance and Accounting, Financial Management

Name: ADITYA VERMA .(2020A4PS0214P)

Student Write-up

PS-II Project Title: Business and Planning analysis of Cab Operations

Short Summary of work done during PS-II : I have been indulged in operations analysis for better efficiency and lead the Supply Enhancement projects on site. The management was supportive and helped with every possible way. It was a great learning opportunity before entering a professional workspace.

Tool used (Development tools - H/w, S/w) : MS Office suite, My maps, canva, Communities, SQL

Objectives of the project : Increase the fleet/revenue size of potentially growing vendors. Consolidate them in low margin and low frequency accounts. Gain Margin Discounts. Guide associates to increase EV fleet.

Major Learning Outcomes : Program management, Project Management, Inter departmental work collaboration.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Regular from WFO, short notice deadlines, short tasks in addition to long term projects. cross department understanding, idea management. Data management. Detailed yet crisp output presentations. You are required to communicate to a lot of employees PAN India.

Academic courses relevant to the project : Mathematics1, Mathematics2, Mathematics3, Probability and Statistics, Engineering Optimization, Manufacturing Management, Fundamentals of Finance, Business Analysis and Valuation.

PS-II Station : Mantys - Nontech , Bengaluru

Faculty

Name: Vimal S P

Student

Name: CHINMAY RANKA(2020A4PS1888G)

Student Write-up

PS-II Project Title: ARR Implementation

Short Summary of work done during PS-II : The role at Mantys involves constructing client use cases from inception to completion, with responsibilities including data extraction, transformation into meaningful metrics like ARR, and presentation through a user-friendly interface tailored to client preferences. The position requires expertise in SQL, familiarity with JavaScript, and basic Excel knowledge. Individuals closely engage with databases, assuming full accountability for the entire use case and incorporating client feedback to continually improve business planning and analytics solutions. Overall, Mantys provides a unique opportunity for professionals to contribute to the success of mid-market SaaS companies by leveraging their skills in a dynamic and client-focused environment.

Tool used (Development tools - H/w, S/w) : SQL, Dbeaver, IntelliJ

Objectives of the project : Business Planning & forecasting

Major Learning Outcomes : I have gained experience in the dynamic culture of startups, acquired skills in SQL and database management, and developed proficiency in frontend development using React.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Mantys specializes in providing advanced business planning and analytics solutions to Software as a Service (SaaS) companies, particularly those with complex usage-based business models. The company's focus is on empowering mid-market SaaS enterprises to effectively monitor and strategize their Annual Recurring Revenue (ARR) through cutting-edge tools and integrations. Mantys' services enable clients to streamline data, monitor key metrics in real-time, conduct simulations, and make informed decisions, ultimately enhancing strategic decision-making and supporting growth.

Academic courses relevant to the project : NA

Name: AYUSH RANJAN JHA(2020A4PS1917H)

Student Write-up

PS-II Project Title: ARR Implementation

Short Summary of work done during PS-II : Work is based client demand. In general, performing data modeling and deriving insights in the form of report, graph and interactive models.

Tool used (Development tools - H/w, S/w) : IntelliJ,DBeaver, Webstorm

Objectives of the project : To derive insights and perform data modelling

Major Learning Outcomes : Business Analytics, PostgreSQL, Javascript, Database

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : It is a startup, so work load is high. On an average, one is required to give close to 10-12 hours. 24*7 availability is expected due to high ownership of the work. It is required to figure out everything on own and minimal assistance is provided.

Academic courses relevant to the project : Data Mining, DBMS

PS-II Station : Mantys - Tech , Bengaluru

Faculty

Name: Vimal S P

Student

Name: PRANJAL JASANI(2019B4A70831H)

Student Write-up

PS-II Project Title: Feature Development

Short Summary of work done during PS-II : Worked on multiple features for the company which included both frontend and backend work.

Tool used (Development tools - H/w, S/w) : React JS, Redux, Saga, Java, Springboot

Objectives of the project : Develop features for company's application

Major Learning Outcomes : React JS, Redux, Saga, Java, Springboot

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Pretty small startup, work pressure is high, expect work at random times and lack of mentorship

Academic courses relevant to the project : DSA, OOP, DBMS

PS-II Station : MasterSoft ERP Solutions , Nagpur

Faculty

Name: Febin A Vahab

Student

Name: SWARNIM KISHOR BARAPATRE(2019B1A10129G)

Student Write-up

PS-II Project Title: Employee Productivity Software Development

Short Summary of work done during PS-II : Developed alternatives to softwares such as DeskTime, partial functionality of RedGate, internal tools developed for automation.

Tool used (Development tools - H/w, S/w) : Helix Text Editor

Objectives of the project : All organisations need a system to measure how their employees or members are performing. This need becomes even more imperative in an organization that has an atmosphere of a startup. The organization must have information regarding how each of their employees spend their time throughout their working day. This will lead to better strategies for optimizing performance of individual employees and teams overall. This will also enable the organization to hire people remotely without geographical restrictions, leading to a better quality of workforce. Furthermore, this enables the organization to reward their best performing employees, thus creating an incentive for other employees to increase their productivity. Many other well established systems such as [DeskTime](<https://deskttime.com/>) exist that perform the same analysis for employee performance and are widely used in the industry. The primary objective was to build a system that is at par with the likes of DeskTime in data collection while simultaneously being performant and less resource intensive. A software developed inside the company also costs a lot less than buying subscriptions for DeskTime that charge per user. The secondary (and potentially even more beneficial) objective was to package this product and sell this as a direct competitor to DeskTime at a lower price. This was the objective behind developing the software.

Major Learning Outcomes : Learned about software development in Python, Powershell, Windows Application Development,

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Startup like environment, conducive to learning a lot. Salaries are low.

Academic courses relevant to the project : -

Name: VEDANT DIWAKAR .(2019B1A21037P)

Student Write-up

PS-II Project Title: MS - Calendar, MS - Experience, MS - Diagnostics ,Canvas Integration and OBE Community.

Short Summary of work done during PS-II : Developed web dev skills through the duration of the PS. Worked on multiple projects related to different needs of teams / company. Interacted with multiple teams leads and director to discuss

Tool used (Development tools - H/w, S/w) : VS Code, MongoDB, Azure MS SQL DB, Azure Blob Storage, Servers.

Objectives of the project : New features and enhancements

Major Learning Outcomes : Full Stack Web Development

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment was very nice, I got a nice room to work from. the hardware and infrastructure was also good, the company has a nice Canteen.

Academic courses relevant to the project : OOPS, Computer Programming

PS-II Station : MBB Labs Private Limited (Maybank) , Bengaluru

Faculty

Name: Pravin Yashwant Pawar

Student

Name: Vidushi Bansal(2019B2A11052G)

Student Write-up

PS-II Project Title: Optimizing the front-end user interface of the Loan Generation Platform for regional managers at Maybank, to improve usability and streamline the loan application process

Short Summary of work done during PS-II : Tasks assigned to me were mostly bug fixes and small new feature additions.

Tool used (Development tools - H/w, S/w) : VSCode, Oracle SQL Developer

Objectives of the project : Front end development

Major Learning Outcomes : JS, React, SQL

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Fast paced

Academic courses relevant to the project : OOP, CP

Name: HRITAV SINGH SOLANKI .(2019B2A41049P)

Student Write-up

PS-II Project Title: Software development in Banking software service

Short Summary of work done during PS-II : As an intern in the Collateral Management System Team at MBB Labs, played a key role in addressing UI challenges and significantly contributed to the development of a new Single Page Application Added Deleting the collateral feature with reason flag updation in database. Improvised logic to display percentage field on a screen based on user inputs taken using 2 newly created inputs. Carried testing of newly added features using sql queries. A single screen view option feature was implemented which brings all information linked to a particular key id at one place. The implemented UI enhancements and the new Single Page Application significantly improved the user experience and efficiency within the Collateral Management System at MBB Labs. The outcomes include: 25% Increase in Deletion Efficiency: The introduction of the Delete feature led to a 25% improvement in the efficiency of collateral deletion processes. 20% Faster Remargin Setting: The dynamic field implementation resulted in a 20% reduction in the time required to set remargin percentages. Enhanced User Engagement: The new SPA contributed to a 30% increase in user engagement and interaction with collateral data. Positive User Feedback: Received positive feedback on the improved UI, with a 95% satisfaction rate among system users.

Tool used (Development tools - H/w, S/w) : React Js , Agile methodology , SpringBoot , SQL

Objectives of the project : Enhancements in existing applications

Major Learning Outcomes : Learnt how to write Industry standard code.

Details of Papers/patents : No details

Brief Description of working environment, expectations from the company : working environment was good , expectation of company is to deliver as many fixes and requirements as possible.

Academic courses relevant to the project : DBMS , OOPS

Name: MUSKAAN GARG .(2019B2AB0940P)

Student Write-up

PS-II Project Title: ML

Short Summary of work done during PS-II : To enhance dashboard, fix the bugs, add remove functionalities from the dashboard

Tool used (Development tools - H/w, S/w) : Rstudio, Oracle SQL developer

Objectives of the project : Software development

Major Learning Outcomes : R programming, SQL

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : The work culture of the company is very good and friendly, they follow a hybrid work culture, everyone is easily approachable.

Academic courses relevant to the project : R, SQL

Name: SHAGUN SOMANI .(2019B5A40756P)

Student Write-up

PS-II Project Title: Single instance implementation through abstract datasource routing

Short Summary of work done during PS-II : I was assigned task to implement single instance in the application, which means to have only one common server deployed instead of multiple servers, and that server according to the user would connect to the required database

Tool used (Development tools - H/w, S/w) : Java, Spring, SpringBoot, Hibernate, SQL

Objectives of the project : To dynamically connect database according to the user and remove the requirement of multiple servers

Major Learning Outcomes :

I got to learn about backend Software Development. Tools like Spring, SpringBoot, Java, SQL, Hibernate

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Environment is team independent. My team has very great culture, people were very supportive. I was also assigned a good project. Overall work environment is great.

Academic courses relevant to the project : Computer programming

Name: [AYUSH SHARMA.\(2020A2PS1756P\)](#)

Student Write-up

PS-II Project Title: Fullstack Website for AnalystS of TMNS

Short Summary of work done during PS-II : We created a full-stack web project which will be used by the analysts of the company to analyze various transaction data. Our application will be used to display required data in form of tables, according to the filters applied by the analyst. We gave option of filtering , sorting to various columns which will be useful in organizing and studying data . We used Oracle SQL for creating the database tables, spring-boot for the backend part of

the code, and react to create the Frontend of the code. Integration of all these three technologies allowed us to create a fully functional full stack web page which will be used by analysts of the company.

Tool used (Development tools - H/w, S/w) : Used React.Js for frontend work , Springboot for backend work ,MySQL as a database

Objectives of the project : To create a Fullstack Website for Analysts of TMNS

Major Learning Outcomes : Learned React.Js , Springboot and MySQL .

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment at the company was very positive and inspiring . Interns are given time to get adapted and learn the technologies . The work given to intern is proper work comparable to full time engineers , this gives them opportunity to learn a lot . The techstack used here is very good and trendy . Mentors are there to guide you properly if you face any issues .Thus overall its a very good learning experience .

Academic courses relevant to the project : C Programming , OOP, DSA , Full stack web development

Name: MITESH BHARDWAJ(2020A4PS1483G)

Student Write-up

PS-II Project Title: Unlocking Financial Opportunities: A Comprehensive Analysis of Maybank's Innovative Banking Loan Application Product

Short Summary of work done during PS-II : Helped in development of loan management system of MAYBANK which will be used by the employees of MAYBANK that will make the loan application process much simpler and easier

Tool used (Development tools - H/w, S/w) : ECLIPSE IDE , VISUAL STUDIO CODE

Objectives of the project : Development of loan management system

Major Learning Outcomes : HTML ,CSS , JAVA , React.js

Details of Papers/patents : null

Brief Description of working environment, expectations from the company : Good working environment , flexible work timings

Academic courses relevant to the project : COMPUTER PROGRAMMING

Name: AYUSH KUMAR(2020A4PS1829G)

Student Write-up

PS-II Project Title: Full Stack development at PESTOS-AA

Short Summary of work done during PS-II : Designed and implemented the user interface leveraging React JS, optimizing time complexity to enhance page loading performance. • Employed axios to efficiently retrieve data from external APIs, thereby augmenting overall system functionality and responsiveness. • Leveraged the Spring Boot framework to architect and develop microservices, employing SQL queries to interface with an Oracle database. • Dynamically rendered and presented data to end users via meticulously crafted templates generated through JRXML, demonstrating proficiency in full-stack development within a cutting-edge, microservices-oriented ecosystem.

Tool used (Development tools - H/w, S/w) : STS, JIRA, SQL DEVELOPER, VSCODE

Objectives of the project : Generate template from backend and mapping the required values

Major Learning Outcomes : Debugging, SQL Queries

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The team is competent, there's room for improvement in terms of engagement and motivation. Additionally, while the office space is satisfactory, expanding it could enhance the overall work environment. Furthermore, considering the limited refreshments, incorporating more options could contribute to a more comfortable and productive workplace

Academic courses relevant to the project : Computer Programming, TRW, Business communication

Name: PRITESH JAIN(2020A4PS1898G)

Student Write-up

PS-II Project Title: Development of Loan Management System

Short Summary of work done during PS-II : Worked on the development of a loan management system called PESTOS for Maybank to facilitate easy processing and tracking of loan applications.

Tool used (Development tools - H/w, S/w) : Oracle DB, VS Code, Eclipse IDE

Objectives of the project : Development of a loan management system

Major Learning Outcomes : ReactJs, JavaScript, SQL

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : Good work environment

Academic courses relevant to the project : OOPs,

Name: SHLOK SINHA(2020A4PS1901G)

Student Write-up

PS-II Project Title: PESTOS AA: Generation of Pdf Templates

Short Summary of work done during PS-II : Worked on creating PDF documents from the backend with relevant data from the database. Created multiple HTML templates and mapped the necessary data. Improved functionality to save & upload of documents.

Tool used (Development tools - H/w, S/w) : Java, Sts, Oracle SQL, React, Junit, Swagger UI, Jira

Objectives of the project : Create a Pdf document from backend, that could be used by the client to make decision

Major Learning Outcomes : Debugging, How to map data fetched from Oracle SQL to templates

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Provided with company laptop on which we worked on virtual machine.

Compact open office space, with comfortable seating arrangement & desk setup. Sitting with team.

Cafeteria has refreshments like tea and coffee to relax and focus.

Academic courses relevant to the project : Business Communication, TRW

PS-II Station : Mercedes Benz , Bengaluru

Faculty

Name: Shashank Mohan Tiwari

Student

Name: MUSKAN KANSAL .(2019B1A41020P)

Student Write-up

PS-II Project Title: Sound Triangulation

Short Summary of work done during PS-II : To process audio signals from a sound source and obtain tangible, meaningful features

Tool used (Development tools - H/w, S/w) : Python, Audacity, Rasberry Pi

Objectives of the project : To process audio signals from a sound source and obtain tangible, meaningful features

Major Learning Outcomes : Programming in Python

Digital Signal Processing

Working with Rasberry pi

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Excellent working environment. Team was very supportive, the projects given are meaningful and the interns are given good ownership of the project

Academic courses relevant to the project : Digital Signal Processing, Computer Programming

Name: KUSH GAMBHIR .(2019B1A41040P)

Student Write-up

PS-II Project Title: Automation of testing and testing data analysis

Short Summary of work done during PS-II : 1. Testing Dashboard: A web application was built using Plotly Dash, designed to analyze and visualize test case data stored in JSON files. This project enabled users to gain insights into their test case performance, distribution, and other relevant metrics through the creation of various interactive charts and tables. 2. CI Pipeline for Automated Smoke Test: A CI pipeline was built using Jenkins to automate the process of running a smoke test upon detection of changes in test cases and/or test configuration files.

Tool used (Development tools - H/w, S/w) : Python, Plotly Dash, Jenkins

Objectives of the project : Automation of test report creation from testing data

Major Learning Outcomes : Advanced features of Python, Dashboard Framework Plotly Dash, Knowledge of CICD Pipelines, Jenkins

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The overall work atmosphere is friendly and teamwork-focused environment where everyone's ideas are welcome. The company encourages creativity and communication, making it a good place to learn and grow. They expect us to do our best work, but they also care about our well-being and want

to help us succeed. There's a focus on continuous learning and professional development, providing opportunities for skill enhancement and career advancement.

Academic courses relevant to the project : Automotive Technologies

Name: DEV RUPESH MEHTA(2019B1A41084G)

Student Write-up

PS-II Project Title: Design of Powertrain Components

Short Summary of work done during PS-II : I worked on mechanical design from scratch. My work involved theoretical calculations, derivation of formulae for specific cases, translating them into 3D models on Siemens NX for visualization, brainstorming different possibilities, optimization of the whole design, integrating important supporting elements to get a holistic point of view, and communicating these points efficiently with all the needed technicalities.

Tool used (Development tools - H/w, S/w) : Siemens NX, MATLAB Simulink, JAVA

Objectives of the project : Optimization of existing systems. Saving space and weight

Major Learning Outcomes : CAD 3D modeling, Technical communication, Benchmarking, Mechanical Design Fundamentals

Details of Papers/patents : Worked on a Patent Idea

Brief Description of working environment, expectations from the company : Very flexible and cooperative working environment. The colleagues are helpful. Good infrastructure is there for personal development in terms of soft skills and technical skills. Company expects to be proactive and be curious to learn more.

Academic courses relevant to the project : Design of Mechanical Elements, Product Design

Name: PRAKHAR AGARWAL(2019B1A41092G)

Student Write-up

PS-II Project Title: Integrated/ Modular Housing Concept for Electric Drive Unit

Short Summary of work done during PS-II : The project was related to Electric Transmission systems in Mercedes Benz Cars.

Tool used (Development tools - H/w, S/w) : Siemens NX

Objectives of the project : Designing / Manufacturing/ Automotive Electric Transmission

Major Learning Outcomes : Designing, Manufacturing, Automotive

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Great company, good infrastructure, excellent opportunity. Great work life balance.

Academic courses relevant to the project : CAD, Manufacturing Processes, Design of Machine Elements

Name: VARUN LENKA(2019B4A40074G)

Student Write-up

PS-II Project Title: Developing a tool to calculate adhesivity of a glue after a sample weight has been placed on it

Short Summary of work done during PS-II : The tool was made under the guidance of my mentor wherein we were concerned with the adhesivity of the glue achieved after a sample weight has been put on it. We held occasional meetings to discuss updates. Drawings were referred to incorporate dimensions and tolerances into the tool. For the simulation we also consulted other departments to gain a better understanding of the material properties of the glue and to understand how to perform simulations for a non newtonian fluid.

Tool used (Development tools - H/w, S/w) : Excel, PPT, NX, NX Simcenter

Objectives of the project : The objective was to develop a tool to calculate adhesivity of a glue after including all tolerance parameters during assembly. Simulation was also done to correlate the excel tool.

Major Learning Outcomes : I learnt a lot about advanced excel including VBA. Also got to know a lot about battery packs and their workings and how its assembly happens. Got to learn advanced NX and did simulations in NX Simcenter.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment is really good with all my colleagues really helping me and teaching me new things. The work life balance is amazing. I learnt a lot.

Academic courses relevant to the project : CAD, Fluid Mechanics, Advanced Mechanics of Solids

Name: ABHINAV RAJA(2019B4A41041G)

Student Write-up

PS-II Project Title: Integrated Insights: Chassis and Wheel Rim Impact Data Analysis, and Simulation Postprocessing Automation

Short Summary of work done during PS-II : I worked on three major projects during the course of my internship in MBRDI. These were - Data Analysis of Chassis Impact Results, Data Analysis on Wheel Rim Impact Study, and development of Automation scripts for CAE Simulation software. In the first project, I attempted to predict the force incurred by axles of a car when impacted by a curbstone modelled by applying ML regression models on crash test data. This involved various steps such as cleaning the data, finding relationships between variables, selection of appropriate features, data normalization, hyper tuning of model hyper parameters, applying different regression models. The second project involved predicting the chances of failure of key areas of a wheel rim subjected to crash tests. I attempted to do so by training a multi output classification model on the data which can perform simultaneous classification on multiple target variables. Besides this, I also trained a custom Convolutional Neural Network to classify wheel rims into certain categories, which could potentially provide a hint of its behavior in a crash test. I also trained a YOLOv8 object detection model on image data received from crash tests to attempt to detect failing parts in the images. This could potentially speed up the data collection process which would help improve the accuracy of prediction models. In the final project, I developed python scripts to parse pre-processor model file data used for submitting to solvers like LS DYNA, and plot stress-strain curves from the simulation result files. I also developed a bash script to automate submission of model files to LS DYNA.

Tool used (Development tools - H/w, S/w) : Software - ANSA, LS-DYNA, META POST. Languages and libraries - Python, Bash, Matplotlib, Pandas, Numpy, Scikit-learn, Plotly, Tensorflow

Objectives of the project : Three major projects covered during internship include - 1) Apply ML regression models to predict the maximum force of impact to the axles of a car when hit by a curbstone 2) Apply ML and DL models to predict the chances of failure of a wheel rim in 4 key areas 3) Develop scripts to submit model files to LSD DYNA solver as well as plot stress strain curves from the simulation results

- Major Learning Outcomes :** 1) Learned to apply data analysis techniques on real-world data to get actionable results
- 2) Learned bash scripting for automation scripts based on CLI commands
- 3) Learned basics of CAE software in the automotive industry
- 4) Learned to apply Deep learning

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is very welcoming and flexible here, with employees generally working between 9am - 4:30-5 pm. There's a decent hybrid working culture here, with employees welcome to work from home any time as required. There are meal and snack facilities available at the two main cafeterias in the office. The employees are very qualified, and very helpful with assisting in work related matters. While majority of the work in my department is CAE related, employees are not expected to be proficient with any of the software beforehand, and are provided sufficient training for the same. There are meetings with your mentors once or twice a week for status updates. There are quarterly events where the overall department's progress is presented, present with fun-filled team building activities, team lunches along with occasional hosting of guests or heads from Germany. There are certain ethnic days held in the office, along with sports tournaments as well.

Academic courses relevant to the project : Foundations of Data Science, Machine Learning, Deep Learning, Statistical Inferences and Applications, Computer Aided Design, Advanced Mechanics of Solids

Name: VAISHNAVI TIWARI .(2020A4PS0204P)

Student Write-up

PS-II Project Title: A Novel Design for Brush and Slip Ring system & Study of Wheel Hub Motor

Short Summary of work done during PS-II : My work involved during research and coming up with design idea then CAD Modeling, Assembly and Drafting.

Tool used (Development tools - H/w, S/w) : MS Excel, Siemens Nx

Objectives of the project : 1) Newly design bearing, brush and slip ring for synchronous motor.
2) To understand the challenges in application of Wheel Hub Motors and proposing solutions to overcome those challenges.

Major Learning Outcomes : Thorough research and building concepts on e motors and enhanced technical skills include siemens nx including CAD Modeling, Assembly, Drafting.

Details of Papers/patents : In the filing procedure

Brief Description of working environment, expectations from the company : There is good work life balance and positive environment.

Academic courses relevant to the project : Automotive Technology, Automotive Vehicle

Name: VAIBHAV VIKAS .(2020A4PS0538P)

Student Write-up

PS-II Project Title: H-point and Torso angle prediction using deep learning

Short Summary of work done during PS-II : Developed a deep learning model to train it over the simulation values. Built a GUI to take a CAD/FE file and predict the H-point coordinates and torso angle. Automated the whole data collection process. Wrote a script to extract geometrical parameters from a CAD model.

Tool used (Development tools - H/w, S/w) : Python, ANSA, C++

Objectives of the project : Deep learning model development to predict H-point coordinates and torso angle

Major Learning Outcomes : Learnt model development, automation process and implementation of geometry algorithms

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment is good with very supportive mentorship. You can take time to learn skills to implement the project at your own pace. Employees are also very approachable for any help.

Academic courses relevant to the project : CAD, NNFL, CFD

Name: BIJOY BHASKAR LALL .(2020A4PS1086P)

Student Write-up

PS-II Project Title: Influence of seat design parameters on seat comfort using data analytics

Short Summary of work done during PS-II : I started with understanding what my team does through various discussions with the teammates and a literature survey. Next, I worked on honing up the necessary skills required for the project such as scripting in Python and working with ABAQUS software. I then spent a few months working on various scripts to accomplish the objective which was: To automate the process of running simulations in ABAQUS and to extract a large amount of data post these simulations and populate this data into an extensive database of input seat design parameters and the resulting values of the comfort metrics. Once the database was ready, I began working on the data analytics part and started brushing up on concepts of machine learning.

Tool used (Development tools - H/w, S/w) : ABAQUS, Python, Excel

Objectives of the project : The main goal of the project was to understand how various design parameters of a car seat such as the cushion and backrest angles influence metrics of seat comfort such as the pressure distributions resulting from the seat-human body contact.

Major Learning Outcomes : Advanced skills in ABAQUS FEA software, Python scripting

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : The working environment at the company is highly positive and flexible. There are no strict in and out times, but a certain number of hours per day is expected. Working from home (from time to time, not regularly) is an option. The atmosphere within the team is very inclusive and the colleagues make you feel as if you have been working with them for years now. The mentors take out time regularly for discussions. They give you the freedom to work as you want but expect you to be responsible with it. All in all, a good working experience.

Academic courses relevant to the project : Computer Aided Design (CAD), Computer Programming, Data Science relevant courses

Name: JADHAV JAYKUMAR LAXMAN(2020A4PS1473G)

Student Write-up

PS-II Project Title: Null values prediction in time series data, Anomaly detection using DL.

Short Summary of work done during PS-II : Null values prediction in time series data and finding Anomaly in it using various statistical methods and using AI/ML models for prediction and DL models for anomaly detection.

Tool used (Development tools - H/w, S/w) : Python, Python libraries

Objectives of the project : Null values prediction in time series data and finding Anomaly

Major Learning Outcomes : Machine Learning, deep learning models, statistics, python programming and it's libraries.

Details of Papers/patents : No paper published.

Brief Description of working environment, expectations from the company : All the colleagues were friendly and approachable anytime, the working environment was very nice and learnt so much from each one of them!!!

Academic courses relevant to the project : IC Engines, M1, M2.

Name: CHAITANYA KRISHNA CHAUHAN .(2020A4PS1869P)

Student Write-up

PS-II Project Title: Process Automation of CAE Workflow

Short Summary of work done during PS-II : During five months of my internship at Mercedes-Benz (MBRDI), I had the opportunity to work on diverse projects related to data manipulation, automation, and scripting. My primary work was on leveraging Python and Excel for increasing efficiency in pre/post processing tasks, GUI development and CAE software model updates. I actively contributed to data processing tasks which included data extraction, transformation and analysis using Python. Additionally, I developed automation scripts and user-friendly graphical user interface (GUI) to reduce the burden of repetitive manual tasks. My latest task involves scripting for model updates and Input conversion for CAE Software and performing operations on loads based on user selection. By automating these processes, I aim to significantly reduce human error and increase the speed of updates, ultimately improving productivity and data accuracy. The scripts provide flexibility of running on different input files and can be used to convert several files at once. Exception handling and errors are taken care of which are stored separately in text files.

Tool used (Development tools - H/w, S/w) : Python, Spyder IDE, tkinter, xlwings, openpyxl etc.

Objectives of the project : To create automation scripts for repetitive tasks, reduce time and effort and eliminate human errors.

Major Learning Outcomes : I learnt about python, vehicle dynamics, automation scripting, debugging and testing of large codes.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The work culture was the best part of Mercedes Benz. The work environment encourages you to keep working as there is no performance pressure and you are allowed to learn from mistakes. Nobody judges you for leaving early or coming late, as long as you are working sincerely and completing the tasks, you can work on your own pace. There are many employee engagement activities to keep you motivated and the mentors are very chill like seniors which help you throughout. Mercedes Benz is a place to work at and I would strongly suggest everyone to come and have a look at the purest of people and the best company in terms of work culture and performance.

Academic courses relevant to the project : DSA, Automotive Vehicles

Name: AMAN SHARMA(2020A4PS1894G)

Student Write-up

PS-II Project Title: Enterprise Project Management Chatbot

Short Summary of work done during PS-II : Worked on automating project management tool and applying LLMs to build a chatbot

Tool used (Development tools - H/w, S/w) : Azure databricks

Objectives of the project : To automate project management

Major Learning Outcomes : Azure databricks, LLMs

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Lite hearted, flexible.

Academic courses relevant to the project : Deep Learning

Name: MOHAMMED SOHAIL R(2020A4PS1979H)

Student Write-up

PS-II Project Title: Predicting Head Acceleration for a Hybrid-III 5th Female Dummy in a FC/FH Loadcase using Machine Learning

Short Summary of work done during PS-II : The project focused on developing a sophisticated machine learning model to predict head acceleration for a Hybrid III 5th Female Dummy. To build the Machine Learning model, I had developed an algorithm to automate the complete data collection process, which had to be constantly improved to dynamically adapt to the evolving requirements. Apart from my main project, I took upon an additional project which was to automate the processing of crash test data, resulting in substantial efficiency gains for the team.

Tool used (Development tools - H/w, S/w) : Python, Jupyter Notebook, Unix Shell

Objectives of the project : Develop a Machine Learning model to predict Head Acceleration for a Hybrid-III 5th Female Dummy in a FC/FH Loadcase scenario

Major Learning Outcomes : Gained practical experience and applied Machine Learning techniques in a real-world project, Understanding of Vehicular Safety Principles, Shell Scripting

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The workplace has a warm and friendly atmosphere. My team was incredibly supportive, and mentors were always there to lend a hand whenever needed. Everyone in the team was also approachable and willing to help out whenever I had questions or needed assistance. There's also plenty of freedom to explore topics beyond the scope of your project, and even develop them into a full-scale project, just like I had done. Overall, if you're willing to put in the effort, this would be a great place to learn and grow.

Academic courses relevant to the project : Machine Learning

Name: RAAGHAV DUBEY(2020A4PS2017H)

Student Write-up

PS-II Project Title: Cradle design optimization

Short Summary of work done during PS-II : Optimized Cradle Designs: Through the integration of benchmarking insights, CAE analysis, and material exploration, the project has yielded innovative cradle designs that enhance structural integrity, reduce vibrations. Parametric Design Tool: The development of a parametric design tool in Excel has proven to be an asset, streamlining the design process and providing a flexible platform for future cradle iterations. Industry Relevance: The optimized cradle designs and insights generated by this project hold significant relevance for the automotive industry, aligning with the industry's shift toward more sustainable and efficient vehicle technologies.

Tool used (Development tools - H/w, S/w) : NX,

Objectives of the project : Design optimization wrt durability and NVH.

Major Learning Outcomes : Calculations, 3D modelling

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : Design of machine elements, Vibrations and control.

Name: SAKSHAM JAIN(2020A4PS2316H)

Student Write-up

PS-II Project Title: Study on Bolt Behavior

Short Summary of work done during PS-II : The project focused on a comprehensive study of bolt behavior, emphasizing its importance in optimizing structural design. The student successfully executed a structured work plan involving the establishment of a simulation model, incorporating material properties and geometrical specifications. Noteworthy aspects of the study include the examination of force plot characteristics under pure tension, shear, and compressive loading through a combination of experimental and simulated studies. The unique approach of gradually removing applied loads provided insights into bolt responses during load reduction. The study contributes to engineering applications by furnishing a deep understanding of bolt behavior under diverse conditions.

Tool used (Development tools - H/w, S/w) : ANSA, LS-Dyna, Animator

Objectives of the project : To understand the different loading cases for a bolt attaching the car's battery to the bottom of the car.

Major Learning Outcomes : I gained valuable insights into the behavior of bolts under various loading scenarios, which significantly contributed to my deep understanding of structural engineering principles. Throughout this experience, I learned about the influence of stress secti

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : My internship at MBRDI was dynamic and enriching. I'm thankful to my mentor, and manager, for their invaluable guidance. Exposure to real-world automotive applications enhanced my technical skills. Collaborating with colleagues, was both enjoyable and educational. Thanks to PS-II faculty, for bridging academic knowledge with practical applications. The internship successfully advanced my technical skills, contributing meaningfully to structural engineering. Everyone was very helpful and friendly.

Academic courses relevant to the project : CAD, Design of machine elements

Name: PUTTA NITIN MAHENDRA(2020A8PS0698H)

Student Write-up

PS-II Project Title: PictAN object detection model and Frontend dev

Short Summary of work done during PS-II : The project "PictAn" (Picture Anonymization) was conceived to address these challenges by developing a comprehensive solution for the anonymization of personal details in vehicle-related media. PictAn, powered by YOLOv8 (You Only Look Once), stands for "Picture Anonymizer" and is designed to automate the process of identifying and obfuscating sensitive information in images and videos, thereby safeguarding individual privacy. OneML offers a user-centric intranet web interface tailored for seamless machine learning model development. The project's core objectives include providing a secure and intuitive platform, leveraging modern technologies such as Ultralytics' YOLOv8 models for efficient object detection, and incorporating a purchased template for streamlined frontend development.

Tool used (Development tools - H/w, S/w) : Ultralytics, Laravel, Labelling, Docker, Tensorflow, Bootstrap, Figma, Git

Objectives of the project : Automating the annotation of images for anonymising and creating an intranet website interface for ML model development platform

Major Learning Outcomes : Frontend Development, Model training and deployment, UI/UX

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : During my internship at Mercedes Benz Research and Development, the working environment was characterized by a blend of innovation, professionalism, and collaboration. As a global leader in automotive technology, the company fostered an atmosphere of excellence where employees were encouraged to push boundaries, think creatively, and contribute to cutting-edge projects. Expectations from the company were centered around delivering high-quality work, attention to detail, and a commitment to upholding the brand's reputation for excellence. There was a strong emphasis on teamwork and communication, with opportunities for interns to engage with cross-functional teams and learn from seasoned professionals in various departments. Overall, the working environment at Mercedes Benz Research and Development was both stimulating and rewarding, offering interns the opportunity to gain valuable hands-on experience while contributing to the company's mission of shaping the future of automotive technology.

Academic courses relevant to the project : Machine Learning, Deep Learning, Digital Image Processing, Data Mining

Name: [SHEREEN GAUBA .\(2020ABPS1845P\)](#)

Student Write-up

PS-II Project Title: Injury Value Prediction using Machine Learning

Short Summary of work done during PS-II : During my internship at Mercedes Benz, I undertook a significant project aimed at enhancing safety measures by deploying a machine learning (ML) model to predict injury values in a Q10 crash dummy. Leveraging both regression techniques and neural networks, I meticulously analyzed extensive datasets comprising crash test results, dummy sensor readings, and injury reports. The project commenced with comprehensive research into existing methodologies and best practices in crash test analysis and injury prediction. I collaborated closely with the engineering team to understand the intricacies of crash dynamics and injury mechanisms specific to the Q10 crash dummy. Utilizing Python libraries such as scikit-learn and TensorFlow, I developed and fine-tuned multiple regression models to predict injury severity based on various input parameters such as impact force, velocity, and dummy positioning. Furthermore, I implemented neural network architectures including convolutional neural networks (CNNs) and recurrent neural networks (RNNs) to capture complex patterns and temporal dependencies in the data. Throughout the development process, I conducted rigorous testing and validation procedures to ensure the reliability and accuracy of the ML model. I optimized model performance through feature engineering, hyperparameter tuning, and regularization techniques to mitigate overfitting and improve generalization capabilities. Upon successful model deployment, I collaborated with the engineering team to integrate the predictive tool into the existing crash test analysis workflow, facilitating real-time injury risk assessment and informing design improvements for enhanced vehicle safety. My internship experience at Mercedes Benz not only honed my technical skills in ML and data analysis but also instilled in me a deep appreciation for the pivotal role of technology in advancing automotive safety standards.

Tool used (Development tools - H/w, S/w) : Python

Objectives of the project : Traditional ways of prediction of injury values are essentially time consuming and exorbitant, an ML approach resolves these issues providing accuracy alongside

Major Learning Outcomes : Data analytics, regression and neural networks

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : At Mercedes Benz, the environment is innovative, collaborative, and driven by excellence. Teamwork is key,

with every employee valued for their contributions, fostering a culture of inclusivity and mutual respect. High expectations drive employees to exceed performance benchmarks, emphasizing attention to detail and a passion for quality. Continuous learning and growth are encouraged, ensuring employees stay at the forefront of automotive innovation. Additionally, Mercedes Benz prioritizes corporate social responsibility and sustainability, aiming to make a positive impact on society and the environment. Overall, the company provides a dynamic and rewarding workplace where individuals can thrive and make a difference.

Academic courses relevant to the project : CP, SCME, ML, FODS

Name: DENVER JOHN LOBO .(2020ABPS1849P)

Student Write-up

PS-II Project Title: 1. Damage prediction for ground clearance management misuse loadcases using Data Science and Machine Learning. 2. Fluid structure interaction of a deformable sphere drop test using Smoothed Particle Hydrodynamics in LS-Dyna.

Short Summary of work done during PS-II : During my Practice School Semester at Mercedes-Benz Research and Development India (MBRDI), I engaged in transformative projects, combining Mechanical Engineering with cutting-edge technologies. The data science project focused on predicting structural damage, utilizing Python libraries and Gaussian regression. Challenges, like a limited dataset and nuanced physics representation, underscored the complexity of real-world applications. The LS-DYNA project explored fluid-structure interaction with SPH, highlighting explicit and implicit solving approaches. This internship has been a profound learning opportunity, immersing me in automotive research's dynamic facets. Challenges enhanced problem-solving skills, and interdisciplinary projects provided clarity on future career directions. As this journey concludes, I look forward to applying gained knowledge in future endeavors. The intricate balance between theory and application, coupled with exposure to cutting-edge technologies, has equipped me for the evolving engineering landscape. This experience not only honed technical

skills but fostered a mindset of continuous learning and adaptability-essential qualities in the dynamic field of engineering and technology.

Tool used (Development tools - H/w, S/w) : Python and it's libraries, Ls-Dyna, Metapost, GNS Animator4, Linux

Objectives of the project : 1. Damage prediction for ground clearance management misuse loadcases using Data Science and Machine Learning. 2. Fluid structure interaction of a deformable phere body drop test using Smoothed Particle Hydrodynamics in LS-Dyna.

Major Learning Outcomes : Data Science and ML tools, CAE softwares with a wide range of applications for Crash structures analysis

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Mercedes-Benz fosters a culture of excellence, innovation, and collaboration, expecting employees to uphold precision engineering and high-quality standards. The work environment encourages continuous learning, technological awareness, and proactive problem-solving. Creativity is valued, with an emphasis on contributing ideas for improvement. Teamwork is crucial for achieving common goals across departments. The company prioritizes employee development, offering opportunities for skill enhancement and career growth. Commitment to sustainability and corporate responsibility is integral to the company's values, reflecting its legacy of luxury, innovation, and automotive excellence.

Academic courses relevant to the project : Machine Drawing, Automotive Vehicles, Design of Machine Elements, FEM

PS-II Station : Metalkraft Forming Industries Ltd , Hyderabad

Faculty

Name: Panchagnula Jayaprakash Sharma

Student

Name: RAVULA AKSHAY REDDY(2020A4PS1564G)

Student Write-up

PS-II Project Title: Operations management

Short Summary of work done during PS-II : Majorly i have been assigned starting to increase the efficiency of mills working here and I got to know how this machine works and apply that knowledge for mill upgrades

Tool used (Development tools - H/w, S/w) : none

Objectives of the project : to reduce the cost of production and make production less dependent on man power

Major Learning Outcomes : There are no major outcomes to learn except to know how usual a forming industry works

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The working environment is not good there is no proper communication with the mentor and the work we have been submitted or have done is not been reviewed properly and only targets the faults and not have given proper updates on positives and there is no proper defination to my roll and one time they criticized based on our CG.

Academic courses relevant to the project : none

PS-II Station : Ministry of Tribal Affairs , New Delhi

Faculty

Name: Vineet Kumar Garg

Student

Name: VATSALA TRIPATHI(2019B5AA0739G)

Student Write-up

PS-II Project Title: Project 1: Detection of Natural Springs in Tribal Areas using ML model trained on satellite data and Project 2: Generation of Images based on Text using an AI model to translate Government Schemes

Short Summary of work done during PS-II : For the first project, to develop the training data using MoTA website data and open source satellite data, and working on using it in the model. For the second project, to create a repository of schemes and images as training data and working on creating a model like OpenAI's DALL-E to create an image to text model.

Tool used (Development tools - H/w, S/w) : Google Earth Engine, EarthExplorer

Objectives of the project : For the first project, to develop the training data using MoTA website data and open source satellite data, and working on using it in the model. For the second project, to create a repository of schemes and images as training data and working on creating a model like OpenAI's DALL-E to create an image to text model.

Major Learning Outcomes : Introduced to AI/ML techniques and learned to work with satellite data

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very comfortable WFH working environment. Flexible hours, weekly meetings. We worked on the two projects with Prof. Navneet Goyal of the Pilani Campus.

Academic courses relevant to the project : None as such

Name: ATHARVA UDAY DESHMUKH .(2020A8PS1799P)

Student Write-up

PS-II Project Title: Project A: Developing a “Soft-Test Kit” for SCD using AI & Project B: Detecting Spring Water using Satellite Imaging

Short Summary of work done during PS-II : For project A, We did comprehensive review of more than 30 research papers on AI-based SCD detection methods, identifying different approaches and understanding of these articles was done. We made summaries and comparison charts for them. We also made synthetic data called meta data and we then made a list of models that had a good rate of success and could be implemented using the selected dataset. For Project B, We first identified the best satellite system for our project. We also converted the spring location data as provided in ‘1000 Springs Initiative’ into a csv file or excel file so that the model can easily use this for training purposes. We also made Ground truth training data.

Tool used (Development tools - H/w, S/w) : QGIS, Google Earth Engine, Earth Explorer, AI, ML, DL

Objectives of the project : Our primary goal for the project A is to develop a ML model that uses data from SCD institute to detect patients with Sickle Cell Disease. Furthermore, we aim to enhance this ML model by making it easy and affordable for the detection of SCD in tribal people using limited features. And our primary goal for the project B is to develop a ML model that uses QGIS and satellite data to detect natural springs in the Odisha region. Furthermore, we aim to

enhance this ML model's capabilities to predict spring locations based on groundwater levels, gradients and rock profiles.

Major Learning Outcomes : AI/ML, satellite image procurement & processing, and Python.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : My PS-II was in work from home mode. My team and I had meeting every week on Thursday and Saturday. We discussed our progress in the project, they also solved our doubts and they also gave tasks for us to discuss. We were told earlier that we would have to go to the PS station at least once but due to some problem we were not able to.

Academic courses relevant to the project : Artificial Intelligence(CS F407), Machine Learning(BITS F464)

PS-II Station : MIPS Embedded Technologies Pvt. Ltd , Bengaluru

Faculty

Name: Manoj Subhash Kakade

Student

Name: GURMEHAR SINGH(2020A3PS0383P)

Student Write-up

PS-II Project Title: Design Verification and Validation of MIPS RISC-V Core

Short Summary of work done during PS-II : The work mostly involves testing the RTL core and Identifying errors and unexpected behaviour using an array of debugging tools. Any specific bugs found are then updated to designers to fix.

Tool used (Development tools - H/w, S/w) : Python, Verdi, System verilog, Linux Shell

Objectives of the project : Design Verification for MIPS custom RISC-V Core

Major Learning Outcomes : Learned about basic steps of design verification and validation of a custom CPU core

Use of Python in automation

Writing RISC-V assembly code

And Specific details regarding Coverage and validation work

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work culture is good. Hybrid mode of work 2days office minimum rest can be WFH.

Academic courses relevant to the project : Computer Architecture, Microprocessor Interfacing, Digital Design

PS-II Station : MLL Express Services Pvt. Ltd. (Rivigo) Tech , Gurugram

Faculty

Name: Pawan Sharma

Student

Name: DEVANSH SHARMA(2019B5A30895G)

Student Write-up

PS-II Project Title: Software Development

Short Summary of work done during PS-II : I worked on 7 tasks. Out of which 4 were big and 3 were small. Apart from that I also did oncall as shadow twice and primary twice. All the tasks were either bug fixes or new feature requirements of the company.

Tool used (Development tools - H/w, S/w) : Docker, Kubernetes, Java, Spring Boot, Adminer, Git, Maven, Gradle, SQL etc

Objectives of the project : There were various dev tasks each had their own objectives.

Major Learning Outcomes : Software Development

Details of Papers/patents : not applicable

Brief Description of working environment, expectations from the company : For the first month we had to go through onboarding documentation and complete an assignment which was for practice to get us familiar with the coding practices of the company. After that we were assigned tasks just like full time employees but of lower priority. We also had oncall shifts in rotation with other team members. Work life balance was okay, apart from office hours we were never contacted or anything. Team members were very helpful and supportive.

Academic courses relevant to the project : Computer Programming, Data Structures and Algorithms, DBMS, OOPS

PS-II Station : MLL Mobility Pvt. Ltd. , Mumbai

Faculty

Name: Sindhu S

Student

Name: GOLAS SAMRIDDHI(2019B2A70932G)

Student Write-up

PS-II Project Title: Infrastructure migration

Short Summary of work done during PS-II : Supported the comprehensive infrastructure and active directory migration of the company over Azure technology. Managed a nationwide team of 30 engineers, ensuring a seamless domain and Office 365 migration of company devices. Fostered collaboration with the application team to craft innovative architecture diagrams for company's proprietary applications. Overhauled the entire Oracle database code for the company's crucial application, Pragati, transforming it into a MySQL database.

Tool used (Development tools - H/w, S/w) : Oracle db, MySQL DB, Azure, draw.io , Excel, Postman

Objectives of the project : To completely migrate the infrastructure of the company out of their parent domain into their own domain

Major Learning Outcomes : Application infrastructure, basic azure handling, MySQL DB and Oracle DB

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The people working in the company are supportive and accommodating. The office timings are strict but the work culture is good. The company will keep high expectations from you depending on the urgency of the work. It is beneficial to show initiative and have good communication.

Academic courses relevant to the project : Computer Networks

Name: JASKEERAT SINGH AHLUWALIA(2020A3PS1608G)

Student Write-up

PS-II Project Title: LOGIFREIGHT DEVELOPMENT USING RUBY ON RAILS

Short Summary of work done during PS-II : 1) API Documentation Creation: Compiled API responses into a comprehensive Word manual, incorporating mandatory fields for customer reference. 2)Frontend Enhancement - Consignment Addition via CSV: Added four buttons enabling consignment addition in CSV format based on four parameters, streamlining the process. 3)Corporate-Level Product Addition Feature: Implemented bulk product addition from a file at the corporate level, automating the manual creation process. 4)Plus 1 Day Logic Implementation: Integrated automated "plus 1 day" logic to enhance accuracy and efficiency in specific system operations or calculations. 5) Solving Same dealer multi consignment using Hashing Algorithm

Tool used (Development tools - H/w, S/w) : Ruby On Rails Web Application Development Framework, GitHub, Microsoft WVD, PuTTY

Objectives of the project : To Add/Develop features on the Web Application, to enhance user experience

Major Learning Outcomes : 1) Was able to build my own web-application as a project for my resume .

2) Learnt SQL and Active record Query

3) Learnt Ruby On Rails

4) Gained knowledge in GitHub, Version Control Systems

Details of Papers/patents : Our work was mostly Task based . We worked on a live software and were responsible for the deployment and debugging of the code if it breaks. We didnt develop

any new project from scratch but worked on a software which already had a big user base thus we

Brief Description of working environment, expectations from the company : So I was part of the Logifreight Development Team , you can expect :

- 1) Work Environment here is very fast paced.
- 2) Deadlines will be very steep and you wouldnt be given any time to learn, you have to learn while working only.
- 3) There will be a Scrum call scheduled EVERYDAY in the morning in which they will ask you the progress of your work
- 4) Development team here consists of very few people , but i learnt alot of things from them and most of them are approachable whenever you are stuck with any problem.
- 5) Seniors are very helping and friendly in nature
- 6) One additional benefit of the smaller team is that you are given same level of tasks as your seniors, thus giving you more exposure.
- 7) Stricly Work from office, no hybrid

Academic courses relevant to the project : 1) Computer Programming

- 2) Object Oriented Programming
- 3) Data Structures and Algorithms
- 4) DBMS

Name: CHIRAG AGRAWAL(2020A3PS1750G)

Student Write-up

PS-II Project Title: Development of Logifrieght(A Web App)

Short Summary of work done during PS-II : Our project, focused on building a feature-rich website, embodies innovation and precision. We've developed functionalities designed to empower users, be they customers or vendors, with tools and features enhancing their experience and ensuring platform security and reliability. Throughout our work, we've fixed bugs, improved

user experience by creating more features as per the requirement. As we progress, project completion will signify a significant achievement for Mahindra Logistics, offering an exemplary solution to the B2B delivery industry.

Tool used (Development tools - H/w, S/w) : mysql workbench, ROR, Ruby gem, Git

Objectives of the project : Our team's mission is to create a robust and user-friendly website that facilitates seamless delivery of goods.

Major Learning Outcomes : Technical Skills, Team Collaboration, Problem-Solving, Project Management, Professional Networking, Workplace Etiquette, Time Management, Communication Skills, Feedback Reception

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Developers can expect a collaborative and agile work culture. Cross-functional teams often leverage agile methodologies for iterative and flexible project development. The version control system, commonly Git, is extensively used for managing collaborative code development. The work environment encourages effective communication and collaboration among team members, which may include developers, testers, designers, and product owners.

Academic courses relevant to the project : Academic relevance to Ruby on Rails (RoR) projects lies in offering students practical experience in web development, reinforcing theoretical concepts through hands-on application.

Name: [Shikhar Srivastava\(2020A8PS0712G\)](#)

Student Write-up

PS-II Project Title: TATA Migration & Database Conversion for Pragati

Short Summary of work done during PS-II : During my internship at Mahindra Logistics Limited (MLL), my role was pivotal in ensuring the seamless transition and security of the company's IT infrastructure during a critical migration phase. My responsibilities encompassed various aspects of IT operations, including: Migration of User Devices Email and Domain Migration AD ID Azure Creation Security Implementation Networking Exploration Database Conversion

Tool used (Development tools - H/w, S/w) : Azure, Zabbix, MySQL, Oracle, MS Excel, Cisco Packet Tracer

Objectives of the project : Migration of User Devices, Email and Domain Migration, AD ID Azure Creation, Security Implementation, Networking Exploration, Database Conversion

Major Learning Outcomes : Acquired proficiency in Cisco Packet Tracer, Microsoft Azure, Zabbix, network simulations, and database conversions.

Gained hands-on experience with Zscaler, contributing to my understanding of network security. Developed soft skills such as Microsoft Exc

Details of Papers/patents : PS2 Report and Seminar presentations

Brief Description of working environment, expectations from the company : Exploring avenues for extended collaboration, there exists ample potential for fostering further partnerships through sponsored and consultancy research projects with the organization. By identifying shared interests and aligning objectives, a collaborative framework can be established to delve deeper into research endeavors. This approach not only facilitates the pooling of resources and expertise but also opens up opportunities for mutual growth and innovation. Through the establishment of a structured and symbiotic relationship, both institution stand to benefit from the collective pursuit of knowledge and the practical application of research findings. This proactive approach towards identifying and embracing new possibilities underscores a commitment to continuous learning and development, fostering a dynamic and mutually beneficial partnership between entities.

Academic courses relevant to the project : Cisco Packet Tracer, Computer Networks, DBMS

PS-II Station : Morgan Stanley - Data Starts , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: PRAKHAR GUPTA .(2019B3A70516P)

Student Write-up

PS-II Project Title: Data strategist

Short Summary of work done during PS-II : Created an Interactive data visualization Freight KPI Dashboard with 250+ charts and graphs, highlighting Road, Air, Sea freight, and Macroeconomic Indicators for various countries. The dashboard provided valuable insights into Global freight and Economic trends. Empowered Researchers and Stakeholders with a user-friendly, Data-rich dashboard that significantly contributed to improved decision-making and increased Operational Efficiency and productivity by providing actionable insights. Conducted In-depth data analysis using tools such as Python, SQL, Excel to extract meaningful insights from complex datasets. Streamlined and Automated multiple Excel-based processes using Python, resulting in significant time savings and increased productivity. Developed Interactive Data visualizations and reports which helped in creation of various Models and differentiated Research reports.

Tool used (Development tools - H/w, S/w) : Python, jupyter notebook

Objectives of the project : data wrangling , data analytics

Major Learning Outcomes : Dashboard buildings, Data Analytics

Details of Papers/patents : no

Brief Description of working environment, expectations from the company : good ,friendly work culture, nice team, very nice manager

Academic courses relevant to the project : ml, fods, any course related to python and data wrangling

PS-II Station : Morgan Stanley - FID Research , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: NADKARNI ARYAN GAUTAM .(2019B3A70406P)

Student Write-up

PS-II Project Title: FID Research

Short Summary of work done during PS-II : I worked on answering the crucial question which clients have in mind when markets see a 10% sell off - was this a correction or will markets continue to sell off and enter a bear market situation. To answer this, I studied the various markets and the interlinkages between the and compiled a set of leading indicators which can help us understand if a bear market is upon us. The purpose was to have a structured methodology in place to deal with such questions.

Tool used (Development tools - H/w, S/w) : Python, Excel, PowerPoint

Objectives of the project : The objective of the project was to have a structured methodology to track the onset of bear markets using leading indicators.

Major Learning Outcomes : I learnt a lot about markets and the various asset classes. I learnt about the factors that are reliable signals to indicate that a bear market might be upon us. Most importantly, I understood how Financial Research team operates.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The work culture was very good. Everyone is on a first name basis. They are all quite helpful. There is also a great deal of autonomy given to interns to work on their projects. There is no spoon-feeding culture and everyone is expected to be responsible for their own work. A very positive atmosphere overall.

Academic courses relevant to the project : Securities and Portfolio Management, Derivatives and Risk Management, Macroeconomics, Money, Banking and Financial Markets

Name: [HITESH GARG\(2019B3A70466H\)](#)

Student Write-up

PS-II Project Title: US Corporate credit analysis

Short Summary of work done during PS-II : I worked on 2-3 different asset classes including equities, credit and interest rates. The work included automation as well as other analytical work using Excel/python.

Tool used (Development tools - H/w, S/w) : Python, Excel, Q, KDB

Objectives of the project : To analyse how different cohorts in the US High Yield behaves with respect to sponsorship

Major Learning Outcomes : Corporate credit sector, equity modelling

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Work environment is really chill. We have flexibility with respect to the working hours as long as we get the work done. Everyone is very supportive and approachable.

Academic courses relevant to the project : Bav, Information Retrieval, ML, FM

PS-II Station : Morning Star - Client Services and Implementation , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: Mudit Rawat(2020A8PS1553P)

Student Write-up

PS-II Project Title: Automation of Periodic Tasks

Short Summary of work done during PS-II : Learnt in-depth about the various types of indices that exist in the financial markets. Worked on servicing pre-sales clients like sales managers, product managers, etc. by sharing requisite data and pitch decks with them. Project at the station involved automation of the process of obtaining this data from our SQL servers within Excel.

Tool used (Development tools - H/w, S/w) : Excel VBA, Python

Objectives of the project : To automate routine tasks which are a sub-part of the overall process of delivering data to the clients

Major Learning Outcomes : Excel, Python, Market Indexes

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : 3 days WFO, 2 days WFH. Managers are friendly and helpful. They provide all flexibility to make your comfortable. The issue with the CSI team in particular is that you need to be available for 9 hours everyday since the team works in shifts and everyone must complete their shift. Some members of the team also work on holidays given that the team is a service team (this is more for FTE than intern). The overall employee attitude in Morningstar is pretty laidback which can be a good or a bad thing depending on your priorities.

Academic courses relevant to the project : SAPM

PS-II Station : Morning Star - Index Management and Analytics , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: MEHROTRA PRAKARSH PIYUSH.(2019B2A40738P)

Student Write-up

PS-II Project Title: Index Replication & Automation of QA Checks

Short Summary of work done during PS-II : My work encompasses four primary areas, each contributing to the comprehensive management and optimization of financial indices. The first focus revolves around Index Replication, involving the meticulous construction of an index from the ground up. This endeavor aims to delve into the intricacies of parameters and techniques fundamental to index creation. Concurrently, the second facet involves the Automation of Quality Assurance (QA) Checks for an index family. The objective here is to streamline and enhance the efficiency of QA processes, ultimately reducing time and elevating operational effectiveness. Additionally, a pivotal aspect involves the Market Classification of various countries, where the goal is to categorize and understand diverse markets, providing valuable insights for strategic financial decision-making. Lastly, the implementation of Daily QA Checks forms an integral part of the workflow, ensuring consistent and rigorous quality assessment on a daily basis. Together these were the areas I worked in during the internship.

Tool used (Development tools - H/w, S/w) : Python, SQL and Excel

Objectives of the project : The project aimed at automation of quality assurance checks conducted for various indexes at launch phase and reconstitution/rebalancing phase of index. Further another project involved replication of an entire index to understand the framework and tools used in index construction.

Major Learning Outcomes :

The principal learning outcome derived from the internship pertains to a comprehensive comprehension of the intricacies surrounding financial indices. This encompasses a nuanced understanding of the entire index lifecycle, spanning from initial construct

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The work environment is business casual, and the mentors are very friendly.

Academic courses relevant to the project : SAPM and DRM

Name: AKASH KUMAR .(2020A3PS0324P)

Student Write-up

PS-II Project Title: Recreating a Test Index

Short Summary of work done during PS-II : Build an Index, Performed an Automation task, Worked on a research project to do Impact Analysis

Tool used (Development tools - H/w, S/w) : Python, SQL, Excel, Power BI

Objectives of the project : To understand how to build an Index from Scratch

Major Learning Outcomes : Finance concepts

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : Excellent

Academic courses relevant to the project : DRM, FUNDAMIN, SAPM, FINMAN, FINE

Name: Shreya Khubber(2020A8PS1807P)

Student Write-up

PS-II Project Title: Test Index - US High Yield Distressed Bonds Index

Short Summary of work done during PS-II : My major work involved building a test index using python, right from deciding the parent index, finalizing the methodology(strategy), developing the code logic and then conducting back tests to assess the performance of my index over years. Additionally, I also got the chance to work on automation tools for the internal code base - Snapshot Analysis module, Active weights module, Bond Issuer capping module.

Tool used (Development tools - H/w, S/w) : Spyder, Anaconda, SQL management studio

Objectives of the project : To write python code for the creation of a test index - US High Yield Distressed Bonds Index

Major Learning Outcomes : 1. Python programming
2. Data Analysis
3. Index Creation
4. Quantitative and Qualitative Analysis of an index

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : My mentors were great and gave me a safe environment to work in. I had a tremendous growth and was able to derive good learnings out of the work which was given to me.

Academic courses relevant to the project : Security Analysis and Portfolio Management, certain concepts of OOP

PS-II Station : Mosdorfer India Pvt. Ltd. , Nashik

Faculty

Name: Arun Maity

Student

Name: AYUSH SHUKLA .(2020A4PS0221P)

Student Write-up

PS-II Project Title: Lean manufacturing implementation

Short Summary of work done during PS-II : Implemented lean manufacturing principles in coordination with a consulting firm resulting in an increase in production and reduction in costs

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : Optimisation for increasing production and reducing costs

Major Learning Outcomes : Lean manufacturing principles

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Bad HR department, early on had no fixed place to sit. Lots of fumes which sometimes make it difficult to breathe.

Academic courses relevant to the project : Operations management

Name: THOMAS BIJU(2020A4PS1649G)

Student Write-up

PS-II Project Title: ERP Implementation in the manufacturing industry

Short Summary of work done during PS-II : -

Tool used (Development tools - H/w, S/w) : ERP

Objectives of the project : Case study on one of the running project and its optimisation

Major Learning Outcomes : -

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : Project management related courses

PS-II Station : Moveworks , Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: DHANANI NAITIK NILESH(2020A8PS1774G)

Student Write-up

PS-II Project Title: E2E testing and Logs Processing

Short Summary of work done during PS-II : Created a logs processor to show logs on open search dashboard, add e2e testing framework and add tests.

Tool used (Development tools - H/w, S/w) : ReactJS, Cypress, Python,Go,Protobufs

Objectives of the project : Add e2e testing framework and processor for logs to dashboard

Major Learning Outcomes : ReactJS, Cypress, Python,Go,Protobufs

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment, helpful mentors, open company culture.

Academic courses relevant to the project : DSA OOP

PS-II Station : MSCI - ESG, quantitative modeling, cloud , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: SARVESH GUPTA .(2020A7PS0093P)

Student Write-up

PS-II Project Title: Python Migration

Short Summary of work done during PS-II : Involved migration of the Python models from Capture to Python.

Tool used (Development tools - H/w, S/w) : Python

Objectives of the project : To make the backend faster

Major Learning Outcomes : Python

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment

Academic courses relevant to the project : DSA DAA

PS-II Station : MSCI (NPD “ Index Research) , Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: RACHIT MOTWANI(2019B5AA0408G)

Student Write-up

PS-II Project Title: NPD Index Research

Short Summary of work done during PS-II : During my internship, I started by learning how MSCI does things and getting familiar with the tools they use. As I got involved in client projects, I played a part in creating new indexes using different methods. I was encouraged to take on my own research projects, where I tried out different strategies to make better returns. The internship was a great learning experience, letting me be creative and contribute in a hands-on way. Being part of making new indexes gave me practical experience in shaping investment tools. Trying out various strategies helped me understand how markets work. This internship not only improved my technical skills but also taught me how to think strategically in the complex world of finance. Working on client projects and doing my own research gave me practical knowledge, preparing me for a more thoughtful approach to finance.

Tool used (Development tools - H/w, S/w) : Python, Excel, Internal tools and softwares

Objectives of the project : Creation of new indexes based on methodologies and development of research-based strategies to provide superior returns.

Major Learning Outcomes : Understanding market cycles and enhanced knowledge of indexes

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company :

Working at MSCI is great because everyone is friendly and helpful. My team is always there when I need assistance, and my manager supported me a lot during my PS2. If I ever faced challenges, the team quickly jumped in to help me out.

A big part of why I enjoyed my time here is because of my mentor. They helped me understand the work and made me feel ready to handle future challenges. MSCI really values working together and learning from each other, which has been awesome for both my personal and professional growth.

The company expects us to be proactive and work well together. They understand that challenges happen, and they want us to face them with strength and a desire to learn. Overall, MSCI is a place where they encourage us to help each other and learn together, making it a supportive environment for everyone.

Academic courses relevant to the project : SAPM

PS-II Station : National Aerospace Laboratories , Bengaluru

Faculty

Name: Samata Satish Mujumdar

Student

Name: VRISHANK KEDIA .(2020A4PS0559P)

Student Write-up

PS-II Project Title: Analysis of Chevron Wing Arrangement

Short Summary of work done during PS-II : The first month was spent in learning about PointWise and Basic Aerodynamics which I needed to be familiar with. The next month was spent on working in various different 2D and 3D configurations for meshing and all the problems that need to be fixed. The office was attacked by ransomware due to which I could not use the professional softwares I learned. I learned a new software XFLR5 and completed whatever limited tasks I could do in my project.

Tool used (Development tools - H/w, S/w) : PointWise, Fluent, XFLR5

Objectives of the project : Analyse the Lift and Drag Analysis of Chevron Wing Arrangement

Major Learning Outcomes : Learn the functioning of PointWise, Fluent

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : The working environment has all the tools required for the completion of the project. The colleagues present were very helpful throughout the Project.

Academic courses relevant to the project : Computational Fluid Dynamics

Name: Jainam Doshi(2020A4PS1089P)

Student Write-up

PS-II Project Title: Titanium Aluminide Sputter Deposition

Short Summary of work done during PS-II : Running experiments to develop an optimized pathway in order to coat substrates with a Ti-Al intermetallic alloy with an aim of improving the material properties of aerospace components.

Tool used (Development tools - H/w, S/w) : Semi-industry sputtering system. Carbolite annealing system. Rough emery and Diamond polishing machines. Origin. Fusion360. Peakfit. Google Sheets. Google Slides. Google Docs

Objectives of the project : To develop a thin film titanium aluminide coating through a PVD process

Major Learning Outcomes : How to plan and run operations and experiments. Research Methodology.

Details of Papers/patents : In the process of publishing a paper. Already submitted the first draft. The paper highlights the material properties of the nano thin film titanium aluminide coating and its characterization. It also mentions the optimized parameters discovered and used

Brief Description of working environment, expectations from the company : The working environment fostered a culture where the projects were lined up and the intern/employee had to find ways to optimize the use of available machinery so as to complete the projects within the expected timeframe. Apart from the fast paced tasks of the day, one also has to deal with a lot of people including seniors and colleagues which may give a practical insight as to how to communicate effectively at work and what tactics to deploy in order to get your work done with high priority. It was expected of me to research about the allocated project, execute it, compile the results and publish them in a research paper within a very short timeframe. This required a lot of discipline and an ability to work under immense pressure on my part. For the sake of completeness, it must also be mentioned that a lot of skills could be developed as part of this

internship experience if one is inquisitive enough. However these skills are mostly associated with research methodology and benefits one if they want to pursue such a career or proceed for higher education in a related field of study. All in all this PS 2 is only for someone with either a very keen interest in the scientific method or no other alternative.

Academic courses relevant to the project : Material Science, Manufacturing Processes, Computer Aided Design, Intro to Sports Engineering

Name: ATHARVA KALE .(2020A4PS1872P)

Student Write-up

PS-II Project Title: DESIGN AND STUDY OF AERODYNAMIC PROPERTIES OF A BIONIC FLAPPER

Short Summary of work done during PS-II : this aerospace engineering internship focused on investigating avian flight biomechanics to further develop bioinspired aerial vehicles. Hands-on lab experiments visualized airflow patterns generated by a mechanical flapper prototype but yielded limited insights. However, an extensive literature review uncovered how subtle wing morphological variations confer specialized flight adaptations across bird species, inspiring next-generation flapping mechanisms. Additionally, an innovative 4-bar folding wing mechanism was modeled using CAD software to integrate efficient storage and rapid deployment capabilities inspired by swans. This demonstration of a practical bioinspired design was a key accomplishment. Overall, the amalgamation of literature findings, experimental analyses, and proposed concepts provided an appreciation for the intricacies of biological flight. Key learning outcomes covered gaining technical skills in aerodynamic testing, computer-aided design, and researching flight biomechanics literature to inform bioinspired vehicle developments, while reaffirming the ambitious challenges involved in replicating the unmatched maneuvering flight proficiency of natural avian flyers.

Tool used (Development tools - H/w, S/w) : SolidWorks, SMAS, hardware that used in making drones

Objectives of the project : To design and study a bionic flapper with folding mechanism for wing and study of wing tip vortex around it

Major Learning Outcomes : Gained hands-on experience in aerodynamic testing of a flapper using flow visualization techniques, facing challenges.

Literature review revealed subtle wing variations confer specialized bird flight adaptations as inspiration.

Leveraged CAD skills, model

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Being part of the reputed Unmanned Aerial Vehicle (UAV) division, I was surrounded by highly experienced scientists and engineers specializing in areas like aerodynamics, structural design, and flight control systems. The working environment was very conducive for learning, with access to state-of-the-art labs including low-speed wind tunnels and structural testing facilities. Experts guided me through hands-on aerodynamic experiments analyzing smoke visualizations and wake patterns generated by flapper prototypes on testing rigs. I also gained valuable computer-aided design skills using SolidWorks for modeling concepts. Expectations from interns were high given CSIR-NAL's reputation for excellence. There was responsibility to carefully document all experimental and theoretical findings from literature surveys and analyses. We had to demonstrate diligence in not just meeting project objectives but going beyond set targets whenever possible for maximal learning outcomes. Another key expectation was imbibing the culture of safety first in every aspect of our work - be it lab experiments, simulations, fabrication, or measurements. Adhering strictly to safety guidelines and reporting protocols was non-negotiable. Overall, it was a high-quality learning environment that stretched my capabilities through exposure to aerospace research methodologies I had only read about previously. Meeting expectations set by renowned scientists translated to accelerated technical and soft skills growth in the domain.

Academic courses relevant to the project : CAD, Fluid mechanics, Material science

Name: SANKALP SINGH(2020A4PS1974H)

Student Write-up

PS-II Project Title: Effect of fillers on mechanical properties of polymer composites

Short Summary of work done during PS-II : The center allotted to me was CSIR NAL, Bengaluru. I was allotted two scientists as my guides. NAL is a defense related institute and has many ongoing projects. I was given a new project keeping in mind my engineering background. My work involved the preparation and analysis of epoxy composites with varying filler concentrations. The first few weeks were completely about literature reviews and reading papers about composites and fillers. After that, the sample preparation started. There were different types of samples created- tensile test samples, coating samples, etc. for different tests. The tensile test sample preparation was a difficult process because the mold for them was not available. The first few samples were wasted because the mold and samples could not be separated. Then we made silicone molds to use for sample making. The coatings were sprayed onto the substrate in the lab itself. After all the samples were prepared, they were sent for testing in the required facilities. Some tests were performed by me in the lab while others needed to be sent to outside facilities. The data from the tests were then retrieved and put into the analysis software. They were then analyzed and the trends were obtained. The final step was to prepare a paper out of all the work done which was the last two weeks.

Tool used (Development tools - H/w, S/w) : Software: Origin Pro, MS Office Hardware: Spray booth, bend tester, pull-off adhesion tester, Nano-indentation tester, FESEM, FTIR spectrometer, impact tester

Objectives of the project : To study the effect of fillers on mechanical properties of polymer composites

Major Learning Outcomes : Understanding the nature and behavior of composites and performing various characterization and mechanical tests

Details of Papers/patents : Effect of cellulose microfiber reinforcement on mechanical and thermal properties of epoxy composites (paper still not published)

Brief Description of working environment, expectations from the company : The working environment was supportive. My scientists were quite accommodating and supportive. The workload was not hectic.

Academic courses relevant to the project : Mechanical CDCs, electives related to material science, composites

Name: S UMASHANKAR(2020A4PS2078G)

Student Write-up

PS-II Project Title: Improving Thermal Conductivity of Polymer composites

Short Summary of work done during PS-II : The primary objective is to augment the thermal conductivity of epoxy resin composites, bolstering their heat dissipation capabilities. The process initiates with the fabrication of a specialized carbon felt material through the controlled manipulation of short carbon threads under pressure in a desiccator. Following this, BD Prepreg (Bi-Directional fibers) are systematically layered, ensuring the exclusion of any interstitial air. After the layering, a consolidation procedure involving heat and compression is implemented using an autoclave. Precision sectioning is then performed for comprehensive performance evaluation, facilitated by advanced cutting machines. Furthermore, specific segments undergo tufting through the integration of twisted kevlar fiber threads before undergoing thermal conductivity assessment, utilizing a state-of-the-art Hot Disk apparatus. Stringent adherence to standardized safety protocols within controlled environments remains integral throughout this intricate procedure, meticulously planned and extensively researched before its commencement.

Tool used (Development tools - H/w, S/w) : Autoclave, eTUFT Robotic Tufting Machine, Water Jet Cutting Machine, Hot Disk, MS Word, MS Excel and MS PPT

Objectives of the project : The aim of this project is to increase the thermal conductivity of epoxy resin composite so that the heat dissipation from various parts can be improved

Major Learning Outcomes : Research experience in Aerospace domain.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The work environment was exceptionally positive. Colleagues were helpful and friendly, and my research guide was enthusiastic about sharing knowledge and assisting me. The company ensured the provision of all necessary safety gear, and strict protocols were adhered to. It proved to be an outstanding place for both work and learning, especially within a top-tier research facility, making it an ideal environment for those contemplating a future in research. Valuable contacts were established, and scientists readily provided credible recommendations, valuable for future academic pursuits like applying for master's or PhD programs. The training and knowledge imparted were comprehensive, enabling even an amateur to swiftly adapt to the demands and acquire the skills of a seasoned PhD researcher. Project execution adhered well to the planned timeline, striking a perfect balance between challenging and manageable deadlines.

Academic courses relevant to the project : Composite Materials and Design, Advanced Composites, Material Science, Advanced Manufacturing Processes, Product Design, Heat Transfer

PS-II Station : National Chemical Laboratory , Pune

Faculty

Name: Santosh Sopanrao Khandgave

Student

Name: ONKAR ARORA .(2020A1PS1312P)

Student Write-up

PS-II Project Title: RISK ASSESSMENT OF CHEMICAL PROCESSES

Short Summary of work done during PS-II : Studied runaway criteria, HAZOP study. undertook quantitative risk assessment, found maximum temperature for synthesis reaction

Tool used (Development tools - H/w, S/w) : Python for finding maximum synthesis temperature

Objectives of the project : To develop a software for risk assessment

Major Learning Outcomes : to understand key concepts in risk assessment

Details of Papers/patents : Suardin, J., Mannan, M. S., & El-Halwagi, M. (2007). The integration of Dow's fire and explosion index (F&EI) into process design and optimization to achieve inherently safer design. Journal of Loss Prevention in the Process Industries, 20(1), 79-90.

Brief Description of working environment, expectations from the company : work from home. expected more resource sharing and collaboration from the company. more regular meetings

Academic courses relevant to the project : thermodynamics, heat transfer, mass transfer

Name: SOUMITRA VATSAL .(2020A1PS1723P)

Student Write-up

PS-II Project Title: CFD study of Fixed Bed Adsorption using COMSOL Multiphysics

Short Summary of work done during PS-II : This study focuses on categorizing adsorption procedures as bulk separation or purification based on the concentration of adsorbates in the feed. The provided modeling, emphasizing physical adsorption, enables the forecasting of breakthrough curves with minimal experimental data. Unlike existing literature, this modeling eliminates the need for obtaining critical parameters from experiments. The study confirms that 1-D modeling aligns with 2-D results, exploring boundary conditions, thermal effects, and homogeneous/heterogeneous modelings. Pseudo-homogeneous modeling is found practical, negating the necessity for intricate heterogeneous models. Utilizing Comsol Multiphysics, the simulation exhibits a strong correlation between output and experimental data, affirming the model's applicability. Objectives of CFD Investigation: ? Improve the efficiency and effectiveness of the adsorption process. ? Understand flow patterns, predict breakthrough behavior, and optimize bed design. ? Contribute to the development of efficient and economically viable fixed bed adsorption systems across diverse applications.

Tool used (Development tools - H/w, S/w) : COMSOL Multiphysics

Objectives of the project : This study focuses on categorizing adsorption procedures as bulk separation or purification based on the concentration of adsorbates in the feed. The provided modeling, emphasizing physical adsorption, enables the forecasting of breakthrough curves with minimal experimental data. Unlike existing literature, this modeling eliminates the need for obtaining critical parameters from experiments. The study confirms that 1-D modeling aligns with 2-D results, exploring boundary conditions, thermal effects, and homogeneous/heterogeneous modelings. Pseudo-homogeneous modeling is found practical, negating the necessity for intricate heterogeneous models. Utilizing Comsol Multiphysics, the simulation exhibits a strong correlation between output and experimental data, affirming the model's applicability. Objectives of CFD Investigation: ? Improve the efficiency and effectiveness of the adsorption process. ? Understand flow patterns, predict breakthrough behavior, and optimize bed design. ? Contribute to the development of efficient and economically viable fixed bed adsorption systems across diverse applications.

Major Learning Outcomes : ? Varied Bed Geometries:

Explore different fixed bed configurations for optimizing mass transfer and enhancing overall system efficiency.

? Simulation Techniques:

Refine CFD simulations with advanced numerical methods and adaptive mesh refinement strategies

Details of Papers/patents : References

1. CFD Investigation of the Effect of Particle Size of A Fixed Bed Adsorption Column:
<https://iiardjournals.org/get/IJEMT/VOL.%208%20NO.%204%202022/CFD%20INVESTIGATION.pdf>
2. COMSOL Blog: <https://www.comsol.com/blogs/category/fluid-and-heat/co>

Brief Description of working environment, expectations from the company : The project on "CFD study of Fixed Bed Adsorption using COMSOL Multiphysics" entails a thorough examination of fluid dynamics and mass transfer phenomena within fixed bed adsorption columns. The central objective is to leverage the capabilities of COMSOL Multiphysics for an intricate computational fluid dynamics (CFD) investigation. The research involves constructing a computational model to simulate and scrutinize the dynamics of fixed bed adsorption, considering diverse bed geometries and configurations.

The study broadens its scope to multicomponent systems, seeking to present a more realistic depiction of real-world situations by examining interactions and competitive adsorption effects among different components. The simulations incorporate considerations for dynamic temperature variations to comprehend their influence on the adsorption process. External factors, including vibrations, mechanical stresses, and additional fluid phases, are also factored in to evaluate their effects on adsorption kinetics and the overall system's performance.

The validation of the computational model is pivotal, encompassing the comparison of simulation outcomes with a varied set of experimental data. The project explores advanced numerical techniques and strategies like adaptive mesh refinement to enhance the precision of CFD simulations, particularly in areas with high concentration gradients. Additionally, the project assesses the scalability of the CFD model for potential application in larger, industrial-scale settings.

In essence, the project amalgamates elements of research, design, and testing, emphasizing the enhancement of productivity and efficiency in fixed bed adsorption processes. Through this undertaking, the project aims to contribute meaningful insights to the field, laying the groundwork for the optimization of adsorption column design and operation across diverse applications.

Academic courses relevant to the project : Process Dynamics

Name: KUPPAM SATHYA VIGHNESH(2020A1PS2277H)

Student Write-up

PS-II Project Title: Risk Assessment in Chemical Process Industries

Short Summary of work done during PS-II : We studied different kinds of risks and hazards that exist in chemical industries. Using CRW4(Chemical Reactivity Worksheet) we were able to find the compatibility of two functional groups. Different criteria for runaway reactions exist, each of varying restrictions, were searched and studied. MTSR method was also studied which assists in determining the severity of runaway reaction theoretically. Also, some simple runaway reaction indices were also looked into which would give a score based on which the risk level of runaway can be deduced. This was put into code such that it can be calculated for the reaction inputs user enters.

Tool used (Development tools - H/w, S/w) : Python, Excel, Research papers

Objectives of the project : objective was to make a tool/software which helps in prediction and prevention of hazards in chemical process industries with more emphasis on Runaway Reactions

Major Learning Outcomes : Different criteria and methods for prediction of Runaway reactions & coding them

Details of Papers/patents : When project is completely done after building on our current progress, the work can be published.

Brief Description of working environment, expectations from the company : PS-2 at NCL,Pune was in remote mode, so we had to work from our homes. We had meets with sir at regular intervals regarding what was to be done and what can be improved. Our Mentor was very friendly, positive and always motivated us.

Academic courses relevant to the project : Kinetics & Reactor Design, Heat Transfer

PS-II Station : National Council for Cement and Building Materials , Ballabgarh

Faculty

Name: Mahesh K Hamirwasia

Student

Name: AYUSH SHIVAM(2020A1PS2070G)

Student Write-up

PS-II Project Title: Decarbonization

Short Summary of work done during PS-II : Developed a model over how to use spent pot liner with inclusion of thermal calciners to improve energy efficiency and reduce fossil fuel usage. Also developed an AI model to predict emissions

Tool used (Development tools - H/w, S/w) : Comsol, python, tensorflow and sklearn

Objectives of the project : To find practical ways to reduce carbon emissions via feasible technologies and viable alternative fuels

Major Learning Outcomes : Learnt :

1. How to approach problems of cement industries
2. Ways of decarbonization and why it is need of the hour
3. How to deal with work-life balance

Details of Papers/patents : Predictive emission system to predict NOx emission published under SAIT

Brief Description of working environment, expectations from the company : Nice, friendly work environment. No such extra pressure and management was very helpful

Academic courses relevant to the project : Thermodynamics, Comsol, Fluid dynamics and CFD modelling

PS-II Station : National Instruments Systems (India) Pvt. Ltd. , Bengaluru

Faculty

Name: Rekha A

Student

Name: ROHIT ARYAN(2020AAPS0293H)

Student Write-up

PS-II Project Title: Measurement Services using Measurement Link

Short Summary of work done during PS-II : Projects included developing new measurement services using Measurement Link both in LabVIEW and Python and also maintaining and testing developed measurement services to NI's customers. I developed IMD Measurement for Audio Plug-in project in LabVIEW where we develop measurement service for Audio ADC chips. Later, I was tasked to develop ADC AC measurement and Audio IMD Measurement using MeasurementLink Python and also help the team with creating test cases and bug discovery/bug fixing for Audio AC measurement and Audio Frequency Response measurement.

Tool used (Development tools - H/w, S/w) : Learnt LabVIEW, MeasurementLink, InstrumentStudio, TestStand

Objectives of the project : Project included developing new measurement services using Measurement Link both in LabVIEW and Python and also maintaining and testing developed measurement services to NI's customers

Major Learning Outcomes : Learnt various aspects about team collaborations and communications. Learnt about time management and priority management while handling real business decisions.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Projects included developing new measurement services using Measurement Link both in LabVIEW and Python and also maintaining and testing developed measurement services to NI's customers. I developed IMD Measurement for Audio Plug-in project in LabVIEW where we develop measurement service for Audio ADC chips. Later, I was tasked to develop ADC AC measurement and Audio IMD Measurement using MeasurementLink Python and also help the team with creating test cases and bug discovery/bug fixing for Audio AC measurement and Audio Frequency Response measurement.

Academic courses relevant to the project : Signal and Systems, Digital Signal Processing

Name: [Faizal Sajid Shaikh\(2020AAPS2107H\)](#)

Student Write-up

PS-II Project Title: Porting of Industrial Communication Drivers to 64-bit

Short Summary of work done during PS-II : I identified the changes that were needed to be made in the codebase. Updated the 32bit variables with the OS-dependent datatypes (ex: 32bit

or 64bit Pointers) GNUMake/Makefile changes and dependencies were used to then build 64bit exports. Once these exports were built through the Build machines, we tested the changes using a Python-based Automated Test Suite (ATS).

Tool used (Development tools - H/w, S/w) : Azure DevOps, CI/CD pipelines, GNUMake, Linux Programming, C++, idl, LabVIEW, Python

Objectives of the project : Enable 64bit functionality for IndComm Drivers

Major Learning Outcomes : DevOps, Build & Integration, Clean Code Practises.

Details of Papers/patents : Industrial communication networks like CAN bus and Ethernet/IP form the backbone of modern factories, enabling machines and devices to talk to each other and share critical data. These networks allow for real-time data exchange between sensors, actuators

Brief Description of working environment, expectations from the company : Regular 9 to 6 working hours. Need to be in office for team days. Policies will largely vary from team to team. Update Work items in the AzDO properly so the team can correctly calculate your remaining items and effort needed. Proficiency in MATLAB/LabVIEW will put you on an advantage.

Academic courses relevant to the project : OOPS , Operating Systems , Computer Networks

PS-II Station : Newton _ NonTech , Bengaluru

Faculty

Name: Uma Nagarajan

Student

Name: MEHUL NAHAR .(2019B1A40919P)

Student Write-up

PS-II Project Title: Program Management

Short Summary of work done during PS-II : Work done there mainly included doing operations at Newton School of technology. The work was mostly doing manual work. A bit part of the project included managing data, for that Excel and SQL was used.

Tool used (Development tools - H/w, S/w) : Google Sheets

Objectives of the project : Handle the logistics and operations at Newton School of Technology

Major Learning Outcomes : Conducting Logistics and Operations

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : There was no expectation from the company. The work environment was not good. The work hours were not fixed, and sometimes I used to stay till 11:00 PM

Academic courses relevant to the project : -

PS-II Station : Nirmaan Organization - Non Tech , Hyderabad

Faculty

Name: Pavan Kumar Potdar

Student

Name: YALAVARTHI SAI KUMAR(2019B5A41110H)

Student Write-up

PS-II Project Title: Business Analysis at Founder's Office

Short Summary of work done during PS-II : In my role as a Founder's Office Intern, I play a crucial part in a dynamic entrepreneurial setting, supporting our visionary founder. I am responsible for strategic planning, improving communication and coordination, project oversight, and analyzing key performance indicators. Additionally, I handled crisis management, built relationships with stakeholders, and provided administrative support. I have actively contributed to decision-making, change management, and process improvement initiatives. This internship has been instrumental in honing my leadership, communication, and project management skills while allowing me to make valuable industry connections.

Tool used (Development tools - H/w, S/w) : Next.js, Tableau, PowerBI, Stacks and their utility.

Objectives of the project : Enhance operational efficiency and organizational effectiveness by strategically supporting the founder through strategic planning, communication improvement, project oversight, and analysis of key performance indicators in a dynamic entrepreneurial environment.

Major Learning Outcomes : In my role as a Founder's Office Intern, I play a crucial part in a dynamic entrepreneurial setting, supporting our visionary founder. I am responsible for strategic planning, improving communication and coordination, project oversight, and analyzing key

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very supportive, well accomodating teams, Geniune people, hard working and passionate team. Very impact oriented work in the Development sector.

Academic courses relevant to the project : Project Appraisal, SAPM, BAV, SCM, TRW etc.,

Name: NEHAL NAIDU GUDIVADA(2020A2PS2494H)

Student Write-up

PS-II Project Title: Digital Media Management and Communications

Short Summary of work done during PS-II : Diverse Project Immersion: Explored multifaceted operations at Nirmaan, transcending conventional desk roles, gaining a comprehensive understanding of organizational dynamics. Effective Collaboration: Engaged with various teams, including central leadership, demonstrating adaptability and teamwork in the pursuit of significant initiatives. Storytelling and Engagement Skills: Developed skills in storytelling and engagement through impactful projects like the Nirmaan Milestone video and Humans of Nirmaan series, utilizing tools such as Adobe Premiere Pro and Canva for creative content creation. Cinematography Proficiency: As a cinematographer, captured the essence of Nirmaan's events using software like Adobe Premiere Pro, including the Nirmaan Social Impact Conclave 2023 and seed ball making workshop. Broadened Network: Connected with diverse individuals, including esteemed personalities, students, and corporate executives, enhancing communication skills and expanding professional networks. Continued commitment to Nirmaan's mission and anticipation of further skill development using platforms like LinkedIn for networking and engagement. Humans of Nirmaan series, Milestone Video, Donor Engagement strategies, Branding, Publicity and Marketing, Documentation, Social Impact Conclave

Tool used (Development tools - H/w, S/w) : Premier Pro. Canva.

Objectives of the project : Engaging in collaborative efforts with various teams, including central leadership, the project aims to enhance teamwork, adaptability, and humanize Nirmaan's mission. Implicitly, the project also endeavors to improve overall productivity and efficiency across Nirmaan's initiatives.

Major Learning Outcomes : Storytelling skills, Content Writing skills, Adobe Premier Pro, Content Creation

Details of Papers/patents : Sponsored Research Projects, Consultancy Research Projects, Design-Driven Initiatives, Efficiency Enhancement Projects, Cinematography for Outreach

Brief Description of working environment, expectations from the company : harmonious working environment with team friendship and team spirit. expect to implement my learnings and findings in developing a self sufficient social media system within the organisation

Academic courses relevant to the project : intro to mass communication

Name: POTTIGARI SREENIDHI(2020A4PS1164H)

Student Write-up

PS-II Project Title: CONTENT CREATION

Short Summary of work done during PS-II : I actively contributed to content creation for events, magazines, testimonials, and social media. I learned to tailor messages for diverse platforms, enhancing my skills in communication strategy and digital content development.

Tool used (Development tools - H/w, S/w) : Google Docs, Grammarly, Porter Idea Generator

Objectives of the project : The project aimed to enhance Nirmaan Organization's online presence and outreach by creating compelling content, including event posts, magazine articles, testimonials, video content, and impactful social media posts.

Major Learning Outcomes : The internship enhanced my skills in content creation and strategic communication, fostering a deeper understanding of effectively promoting organizational initiatives.

Details of Papers/patents : none

Brief Description of working environment, expectations from the company :

The working environment was collaborative and dynamic, requiring adaptability in content creation for diverse platforms. Expectations from the company involved on proactive

engagement, effective communication, and a commitment to delivering high-quality results within specified timelines.

Academic courses relevant to the project : BITS F112 - Technical Report Writing, GS F223 - Intro to mass communication

PS-II Station : Nirmaan Organization - Tech , Hyderabad

Faculty

Name: Y V K Ravi Kumar

Student

Name: JAYESH GUPTA .(2020A1PS1728P)

Student Write-up

PS-II Project Title: Social Impact Platform

Short Summary of work done during PS-II : Developing a common platform for communication for the corporate donors and Nirmaan employees.

Tool used (Development tools - H/w, S/w) : Nextjs, SQI, Tailwind CSS

Objectives of the project : Developing a common platform for communication for the corporate donors and Nirmaan employees.

Major Learning Outcomes : Learnt web development skills along with product management

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good

Academic courses relevant to the project : NA

Name: ZAKIA FIRDOUS MUNSHI(2020A1PS2385H)

Student Write-up

PS-II Project Title: SWASHA, Hope in a Cup, Nirmaan website

Short Summary of work done during PS-II : SWASHA, short for SWAyam SHAkti is a nonprofit E-commerce platform, established to provide a platform for underprivileged women and other marginalized sections of the society to create, promote, and market various handmade products. Worked on building a website for Hope in a Cup cafe, which is a first of a kind inclusive cafe run by 4 women LGBTQ+ entrepreneurs. Worked in revamping of Nirmaan's website.

Tool used (Development tools - H/w, S/w) : HTML, CSS, JAVASCRIPT, Bootstrap,Jira

Objectives of the project : Aid in developing E-commerce platform, build website for a newly opened cafe, revamp nirmaan's official website.

Major Learning Outcomes : HTML, CSS, JAVASCRIPT, Bootstrap, JIRA

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Work-life balance was great. Not so professional culture.

Academic courses relevant to the project : none.

PS-II Station : Nomura - Digital Transformation - Fintech , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: BISWAJIT BENGANI(2019B2A30975G)

Student Write-up

PS-II Project Title: Research & Strategy, Fintech

Short Summary of work done during PS-II : During my internship, the work majorly focused upon the topics Metaverse, Gen AI and Wealthtech Finance. The work majorly inclined towards deep dive reserach of the market and the peers and making strategy.

Tool used (Development tools - H/w, S/w) : Nomura's internal tools, Excel, PowerPoint

Objectives of the project : Research & Strategy

Major Learning Outcomes : Familiarity with new gen technologies and deep dive research

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Working majorly on market research and sharing strategies with the Tokyo office.

Academic courses relevant to the project : Fin Minor Courses

PS-II Station : Nomura - Finance FCR , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: VENKATESH RAVINDRAN(2020A1PS2504H)

Student Write-up

PS-II Project Title: Finance-FCR

Short Summary of work done during PS-II : Played a pivotal role in the Financial Control team by actively participating in Business-As-Usual (BAU) activities. Ensured the smooth execution of routine financial operations, contributing to the team's overall efficiency and adherence to established controls. Took ownership of testing Alteryx workflows, ensuring the reliability and accuracy of data processing systems. Addressed Data Quality (DQ) issues within BAUs, streamlining processes for improved accuracy and efficiency. Implemented solutions to enhance data integrity, contributing to the overall effectiveness of financial control operations. Analyzed the impact of Basel III endgame on Nomura's businesses, providing valuable insights into potential challenges and opportunities. Contributed to strategic discussions by presenting comprehensive analyses of the implications on financial operations. Worked on development of interactive Power BI dashboards to automate business-as-usuals tasks of analyzing and summarizing large datasets. The dashboards were commissioned as End User Computing Tools(EUCs) and implemented for across the division saving 120 hrs/yr of manual work. Calculated daily mark to market exposure and ISDA fee for Nomura Entities. Preparing periodic management reviews & KPI/KRI review packs and provide analytical commentary.

Tool used (Development tools - H/w, S/w) : Power BI, Excel, Powerpoint

Objectives of the project : Worked on development of interactive Power BI dashboards to automate business-as-usuals tasks of analyzing and summarizing large datasets. Devised and

executed netting strategies for Secured Financing Transactions(SFTs) Maintained data quality in the reporting process. Calculated daily mark to market exposure and ISDA fee for Nomura Entities. Preparing periodic management reviews & KPI/KRI review packs and provide analytical commentary. Involved in testing of systems to test their performance and identify the shortcomings, reporting the results obtained to various financial regulators.

Major Learning Outcomes : Power BI, Knowledge of financial products, financial reporting Intradepartmental Collaboration, Critical Thinking, Networking.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : .

Academic courses relevant to the project : FOFA, FRAM

PS-II Station : Nomura - Information Technology GMIT , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SIDDHANT JAIN(2019B3A80607H)

Student Write-up

PS-II Project Title: Developing a utility Dashboard for Zephyr jira

Short Summary of work done during PS-II : Created a web application using Python-flask, vanilla Javascript, HTML and CSS, which helped automate their Jira and release related activities.

Tool used (Development tools - H/w, S/w) : Python, Flask, Java, Javascripts

Objectives of the project : One stop Application for developers to conduct their SDLC activities and do hassle free release cycle

Major Learning Outcomes : Writing industry-standard clean code.

Problem Solving.

Working in team environment

Details of Papers/patents : Nill

Brief Description of working environment, expectations from the company : Everyone works in a team based system. They have meetings every day to discuss the tasks of the day and review previous work.

Company expects one to have knowledge of either java or python.

Academic courses relevant to the project : OOPS, DBMS

PS-II Station : Nomura - Risk Management - RMG MRA , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: HRISHIT GUPTA(2019B4A80869G)

Student Write-up

PS-II Project Title: RMG MRA

Short Summary of work done during PS-II : My work was to calculate the VaR of insurance trades. There were many factors to be accounted for and they were to be incorporated properly in the model. I also had the task of checking if the existing models and codes of the organisation were in line with the latest guidelines of the organisation.

Tool used (Development tools - H/w, S/w) : Python, MS Excel, VBA Macros, GitLab

Objectives of the project : To upgrade and improve existing models which calculate the VaR of various trades.

Major Learning Outcomes : How the VaR is calculated for trades, factors affecting the way the model works and the assumptions to be taken into account while dealing with the present data.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good positive working environment. The people are helpful and nobody is berated. Operates in a hybrid mode.

Academic courses relevant to the project : Financial Risk Analytics and Management, Derivatives and Risk Management, Security Analysis and Portfolio Management

PS-II Station : Nomura - Wholesale Strategy , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SHAH SHIVANSH CHETAN .(2019B3A30566P)

Student Write-up

PS-II Project Title: Wholesale Strategy

Short Summary of work done during PS-II : Understood the workings of Nomura's Wholesale division and developed a holistic understanding of Wholesale Banking in general

Tool used (Development tools - H/w, S/w) : Bloomberg, Excel, PowerPoint

Objectives of the project : Periodically tracking essential macro-economic indicators and 10+ global competitors' performance. Working on central projects for senior stakeholders of the firm.

Major Learning Outcomes : Developed advanced proficiency in Excel and PowerPoint throughout the internship

Achieved proficiency in accessing Bloomberg Terminal for various resources.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Having long working hours is pretty much the norm for this role. Had extremely skilled and supportive team members to learn from throughout my internship.

Academic courses relevant to the project : Business Analysis and Valuation, Fundamentals of Finance and Accounting, Macroeconomics

PS-II Station : Nomura - Wholesale Strategy , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: KEVIN RAMBHIA(2020A3PS2208H)

Student Write-up

PS-II Project Title: Wholesale Strategy

Short Summary of work done during PS-II : All of the work was based on Excel and PowerPoint so no need to have Python or coding skills. I would recommend to learn basics of both these tools. The team is basically like an internal consulting team for Nomura and we use very high level analysis to solve problems and provide solutions to senior stakeholders of the firm. Their requests to provide data for various products of the firm historically and use them for future predictions are done by the team. Competitive benchmarking of peers is also done by the team. Working in the medium term plan for the firm is a major project.

Tool used (Development tools - H/w, S/w) : Excel, PowerPoint

Objectives of the project : To work for the Nomura Strategy team and solve the firms internal problems

Major Learning Outcomes : Excel, Bloomberg Terminal, PowerPoint, Analysis of various financial trends

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The company would be expecting you to work for a minimum of 12 hours each day if not more. So if you are someone willing to give up life for work then I would highly recommend you this station. Also you'll need to be familiar with all finance courses taught to you as from inception of the internship you'll be work that will require you to apply these terms in the real world.

The team is very helpful and approachable in many ways. Initially, I was a bit nervous but the team being very inclusive helped me overcome that. Everyone is very hardworking and would be there for you if needed. The working hours are very long with 12 hours a day being average.

Academic courses relevant to the project : FOFA, DRM, SAPM, BAV, FM, FRAM

PS-II Station : Nomura Global Markets , Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SHUBH MANSINGHKA(2019B3A30496H)

Student Write-up

PS-II Project Title: Fixed Income Trading - International Wealth Management

Short Summary of work done during PS-II : Work revolves around multiple aspects of the daily functioning of an advisory desk. You can expect starting with some automation tasks and parallely pick up multiple projects. I started with a few projects primarily aimed at improving the efficiency of the desk for their manual tasks. Gradually it evolved to credit research and risk management with client portfolios. Teams in Nomura are small, which allows you to gain more exposure to the work. IWM is the private banking side, so you get a chance to learn and interact with a lot of stakeholders like RMs, Product Specialists, etc.

Tool used (Development tools - H/w, S/w) : Python, VBA, Excel

Objectives of the project : Research and Advisory on Fixed Income Products

Major Learning Outcomes : This is a trading desk, you get to observe and extend inputs to BAU tasks and product research and advisory. Understand the nuances of Wealth Management and trade idea generation.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working culture at Nomura is quite chill. Colleagues are friendly and will help you out easing into the system. Work hours may vary like any banking station from hectic to easy, you will have to adapt to this. My team was based in SGP and HK, so I started early in the day. If you are working in the Asian region, you can expect similar timings that will start early in the day. A lot of new teams are being setup here, so can expect decent chances of PPO as well.

Academic courses relevant to the project : Finance Minor - All 6 courses

Name: ADARSH KUMAR RAI(2019B3A71071H)

Student Write-up

PS-II Project Title: Asia Ex-Japan Macro Structuring - Rates/Credit/Hybrids

Short Summary of work done during PS-II : Global Markets has three major divisions. Sales, Structuring and Trading. Sales interacts with the clients. The client requirements are sent to Structuring in order to structure complex customized derivative products for the clients' requirements. Once these structures are approved, the Trading desk takes the corresponding position in the market. I worked in the Structuring division, for the Rates and Hybrid products asset class, in the Asia-ex Japan region. Most of my work revolved around building pricing sheets for Sales and Structuring teams, coming up with product ideas to structure and pitch to clients, making pitchbooks for client visits and to assist the team in BAU activities.

Tool used (Development tools - H/w, S/w) : Company in-house pricing software

Objectives of the project : I have completed multiple projects during my internship. The projects are mostly related to building financial models to price derivatives and automate the whole pricing process to scale capabilities of the Sales and Structuring teams. Was also tasked with generating ideas for new derivative products.

Major Learning Outcomes : I have learned a lot about various kinds of derivatives traded in OTC markets, how they are structured to meet clients' needs, how they are priced and then pitched to clients, and how market movements affect these products and the entire derivative market

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : People are really kind, helpful, and reachable, no matter their seniority. The work environment is similar to other banks, where you can expect to put in 10–12 hours daily. Global Markets, being a front office entity, can sometimes require extra effort as you are tasked with extra responsibility. But it provides a great learning curve for people who want to build a career in finance and a great network, to begin with, as your colleagues are mostly from the top institutes across the country.

Academic courses relevant to the project : DRM and FRAM.

PS-II Station : Nreach Online Services Pvt. Ltd. , Bengaluru

Faculty

Name: Pradheep Kumar K

Student

Name: MADHAMSETTY SAI MANI PRITHVI RAJ(2019B4A21015H)

Student Write-up

PS-II Project Title: Data analysis and growth marketing

Short Summary of work done during PS-II : Increase growth of website, partnerships, analysis into campaigns and customer analysis

Tool used (Development tools - H/w, S/w) : Excel, figma, power bi, Leonardo AI, Semrush

Objectives of the project : Increase growth of website, partnerships, analysis into campaigns and customer analysis

Major Learning Outcomes : Analysis, SEO, Marketing management

Details of Papers/patents : Campaign analysis I made was going to be published

Brief Description of working environment, expectations from the company : In my marketing heavy workhours and expectations.

Academic courses relevant to the project : NA

Name: KESHAV VISHWAKARMA .(2020A4PS1316P)

Student Write-up

PS-II Project Title: Sales and Incentive forecasting platform for Compass App

Short Summary of work done during PS-II : Built a Sales and Incentive analysis, cleaning, and forecasting platform for Compass App clients

Tool used (Development tools - H/w, S/w) : H2O, Apache Spark, python, scala

Objectives of the project : Sales and Incentive forecasting platform for Compass App Clients

Major Learning Outcomes : Big Data analysis

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment wasn't good. The Senior Employees (SDE2,3, Team Lead) who were from tier 2-3 colleges, started comparing and degrading me and same happened with a fellow BITSian. One guy at a senior position talked and challenged about his sexual fantasies. The other BITSians on PS2 were also overworked and for one BITSian, he was nearly fired for not being able to meet his manager's unrealistic expectations of 500-600 market analysis a day. This company was a literal abusive environment to learn anything.

Academic courses relevant to the project : NA

PS-II Station : Nutanix Technologies India Pvt. Ltd. , Bengaluru

Faculty

Name: Chandra Shekar R K

Student

Name: RAJ SRIVASTAVA(2019B1A71426H)

Student Write-up

PS-II Project Title: Application Discovery and Monitoring

Short Summary of work done during PS-II : Worked on the "App Discovery and Monitoring" project for the AIOps core team at Nutanix, enhancing app discovery and introducing real-time monitoring. Using Go, developed a script to dynamically detect applications on user VMs. This script seamlessly integrated Telegraf collector for continuous application-level monitoring,

ensuring prompt issue detection. Automation was implemented for authentication via ssh key pairs, enhancing security and user experience. To store time-series data, InfluxDB was used, offering a scalable solution for efficient data management.

Tool used (Development tools - H/w, S/w) : Golang, shellsript,telegraf collector,InfluxDB,docker container and other nutanix internal tools

Objectives of the project : To discover applications running on virtual machines and then monitor their metrics.

Major Learning Outcomes : Got understanding of netstat utilities,telegraf coollector,time series database(influxdb),statsApi,Shellscript,Docker Container, password less ssh authentication

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : Very friendly work environment.Majority of people in my team were BITSians and they were very helpful and guided me whenever I needed any sort of assistance.

Academic courses relevant to the project : Computer Networks, Database Management System, Data Structures and algorithms

Name: [KOLLI AKASH\(2019B3A70426G\)](#)

Student Write-up

PS-II Project Title: Shell & Powershell support and Resource Type Action support in Dynamic Variables

Short Summary of work done during PS-II : The scope of this project involves expanding the capabilities of Dynamic Variables. Before this enhancement, users were limited to executing scripts using EScript and HTTP methods in the variables. Now, they'll have the ability to execute

scripts on both Linux and Windows endpoints using Shell and PowerShell scripts in the variables, respectively. The scope of the second project involves expanding the capabilities of Dynamic Variables. Now, the user can execute a ResourceType-Action in the variables.

Tool used (Development tools - H/w, S/w) : ReactJs, Typescript, Javascript, Python

Objectives of the project : Support Shell & Powershell and Resource Type Action in Dynamic Variables.

Major Learning Outcomes : Major learning outcome was Web development, Writing the code clean, Reviewing the Code, Unit tests, and various other technologies

Details of Papers/patents : Nothing

Brief Description of working environment, expectations from the company : Working environment is very good and fellow colleagues were very supportive & helpful

Academic courses relevant to the project : Oops

Name: [YADBEER SHARMA\(2019B3A70521P\)](#)

Student Write-up

PS-II Project Title: Multi Scan Deduplication

Short Summary of work done during PS-II : To split Deduplication process into multiple scans.

Tool used (Development tools - H/w, S/w) : Jira, git, Gerrit, virtual machines

Objectives of the project : To split Deduplication into multiple scans

Major Learning Outcomes : Operating systems, memory management, distributed systems, cloud systems

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment is pretty good. You can work at your pace as long as you fulfill the objectives.

Academic courses relevant to the project : Operating system, Computer Network, Computer Architecture

Name: Sarvesh Lanke(2019B3A71028H)

Student Write-up

PS-II Project Title: Building low latency storage application using SPDK

Short Summary of work done during PS-II : The first project was upgrading the SPDK library in the Nutanix codebase. The old one released 2 years earlier was v21.01.1 and I had to upgrade it to the latest LTS release of v23.01.1. It involved a lot of moving parts as the API calls, function signatures, primary and secondary dependencies had changed. This project was an urgent time bound one and had to be shipped to the release branch as soon as possible. The second project was to contribute new functionality and tests to the open-sourced repo SPDK v24.01.1. I had to make SPDK run on a dev machine without huge pages. And add tests for the same. This project involved collaborating with folks across the globe as I needed RFCs, and reviews from core maintainers in Intel, Samsung, Nvidia, etc. The third project and the most important one was to write an NVMe adapter in C++ using SPDK. This involved familiarising myself with how RW requests are currently being processed, how they can be optimized using SPDK APIs, and how the SPDK function calls must be made. The most difficult part was exploring and writing the logic so that minimum calls were being made to SPDK APIs. This would reduce the latency of the IO requests which is the USP of Nutanix clusters.

Tool used (Development tools - H/w, S/w) : Advanced C++, Bash, Python

Objectives of the project : Build a low latency application using NVMe protocol

Major Learning Outcomes : How Distributed Storage across servers work,

What are storage protocols such as NVMe and NVMe-oF,

How to use High performance libraries such as SPDK,

How to collaborate in open source communities and

How to maintain code hygiene while writing production level code

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment is overall good, but the amount of work you're expected to put in varies from team to team.

The team members are helpful but expect you to figure out stuff on your own. A lot of ownership and independence is expected. Working on your own without needing anyone's guidance is valued.

Projects involve a lot of self study and exploration on your own. There are deadlines for the same and you're expected to adhere to them strictly.

The perks are good.

Academic courses relevant to the project : Computer Architecture, Operating Systems, Object Oriented Programming

Name: RHYTHM SETHI(2019B3A71306H)

Student Write-up

PS-II Project Title: Data Lens Telemetry

Short Summary of work done during PS-II : I created brief and meaningful reports summarizing data lens features and product usage. These reports, aimed at decision-makers, provided a quick yet thorough analysis of how specific features were embraced. Using straightforward visualizations, I simplified complex data to help stakeholders easily grasp key metrics. The goal was to offer practical insights for informed decision-making and drive improvements in product strategy and development by presenting adoption patterns in a clear and actionable way.

Tool used (Development tools - H/w, S/w) : AWS, Docker, Snowflake, SFDC, SQLAlchemy, Python, Postgres

Objectives of the project : DL Telemetry Reports Generation

Major Learning Outcomes : Various software development concepts such as importance of testing,
Effective use of version control and code review,
Writing production suitable code.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Everyone at my team was extremely helpful, friendly and patient. The company expects interns to take full responsibility of the tasks assigned to them, right from coding to fixing any bugs that might come up during QA testing and the even help you by providing valuable insights at various stages.

Academic courses relevant to the project : Database Systems, Object Oriented Programming, Computer Networks

Name: [KULKARNI DARSHAN VINAYAK\(2019B5A70317G\)](#)

Student Write-up

PS-II Project Title: Deployment of Nutanix Stack

Short Summary of work done during PS-II : The work during PS-II involved me automating the deployment of a Nutanix Product using some IaC tools like Terraform and Cloudformation

Tool used (Development tools - H/w, S/w) : Terraform , AWS, K8s

Objectives of the project : To automate the deployment of a Nutanix Product

Major Learning Outcomes : I learnt about various technologies like Kubernetes, AWS and IaC Tools like Terraform

Details of Papers/patents : .

Brief Description of working environment, expectations from the company : The work environment at Nutanix is great. Everyone in my team is quite helpful, and address all the queries that I have . They expect the interns to take the complete ownership of the things that we develop. The work culture is great

Academic courses relevant to the project : Operating Systems, Computer Networks, DSTN

Name: SNEHASISH KUMAR SHARMAH THAKUR(2019B5A70411G)

Student Write-up

PS-II Project Title: Implementation of Observability Metrics

Short Summary of work done during PS-II : Implemented 8 key metrics in Go for monitoring authentication and authorization services in the Kubernetes based Nutanix environment.

Tool used (Development tools - H/w, S/w) : Go, Python, PostgreSQL, Prometheus, Snowflake, Kubernetes, Docker, Redis

Objectives of the project : Implementation of Observability Metrics in IAM stack of Nutanix

Major Learning Outcomes : Understood codeflows and implementation of observability metrics in a kubernetes environment.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Supportive environment.

Academic courses relevant to the project : OS, DBMS, OOP

Name: [VIVEK SUBRAMANIAM R\(2019B5A70742G\)](#)

Student Write-up

PS-II Project Title: Bulk Deletion of Recovery Points

Short Summary of work done during PS-II : During my internship at Nutanix Technologies, I delved into a challenging project focused on enhancing data protection through an API-RPC fusion for bulk deletion of recovery points. This experience significantly bolstered my technical expertise, allowing me to develop Python scripts, understand API integrations, and implement complex RPC methodologies. Working collaboratively across teams honed my project management and communication skills. I learned to navigate evolving project requirements while maintaining precision and attention to detail. This internship broadened my understanding of data protection's critical role in business continuity. Troubleshooting system intricacies and devising solutions provided invaluable problem-solving experience. Overall, this internship served as a platform for personal and professional growth, equipping me with essential skills, knowledge, and adaptability for future career pursuits in the tech industry.

Tool used (Development tools - H/w, S/w) : S/w

Objectives of the project : Build API endpoints in product

Major Learning Outcomes : REST APIs, Project Management Skills, Design and Implementation, Team work, Communication

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Great team, excellent employees, pleasant managers, great work life balance and flexibility.

Academic courses relevant to the project : Most higher level CS courses (OS, CN, DSA etc)

Name: MADUGULA LIKITH SAI(2019B5A70980H)

Student Write-up

PS-II Project Title: Custom Metrics from A kubernetes cluster

Short Summary of work done during PS-II : To collect custom Metrics and default metrics from a kubernetes cluster and visualize them on a grafana dashboard

Tool used (Development tools - H/w, S/w) : Kubernetes, Prometheus, golang, docker, grafana

Objectives of the project : To collect custom Metrics and default metrics from a kubernetes cluster and visualize them on a grafana dashboard

Major Learning Outcomes : Was able to understand how to tackle problems and how to go about the errors which we encounter

Details of Papers/patents : I've not got any patents for my work.

Brief Description of working environment, expectations from the company : It was very good, had a very nice team and the work life balance was good.

Academic courses relevant to the project : None

Name: TAVISHI SETH(2019B5A71106H)

Student Write-up

PS-II Project Title: App Discovery and Monitoring

Short Summary of work done during PS-II : In today's technology-driven world, the efficient discovery and monitoring of applications are critical for ensuring optimal performance, reliability, and security. This internship project aims to enhance our organization's ability to discover and monitor applications running in our user virtual machines.

Tool used (Development tools - H/w, S/w) : Docker, Go Lang

Objectives of the project : App Discovery and Metric Collection using Telegraf - InfluxDB: Configured open source Telegraf agent to collect metrics data from Nutanix clusters, monitor whitelisted applications periodically, and raise alerts when necessary.

Major Learning Outcomes : Coding in Go Lang, Understanding internal working of Nutanix AI Ops team

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : Computer Networks

Name: DESHPANDE ATHARV MAHESH(2020AAPS0302G)

Student Write-up

PS-II Project Title: Vault Integration for Foundation Central and Standardization using v4 APIs

Short Summary of work done during PS-II : Started by learning Golang to write clean and scalable to create secret store independent client-codes. Integrated Hashicorp Vault secret engine service with the interfaces created .For v4 APIs created handlers and wrote various unit tests to replace the existing v1 APIs. Learnt debugging code and how to write effective documentation

Tool used (Development tools - H/w, S/w) : Golang, Jira, Swagger ,Gerrit, Docker, Postgres

Objectives of the project : Design a client for Hashicorp Vault to allow Foundation Central to store secrets using Approle authentication and create handlers for new version of APIs.

Major Learning Outcomes : API Documentation using swagger

Bash Scripting

Docker and Kubernetes

Golang

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : The work environment is great at Nutanix. Everyone in the team is very supportive and approachable. Adequate amount of time is provided to understand the team's codebase.

Academic courses relevant to the project : Computer Programming, OOP, DBMS, OS, Computer Networks

PS-II Station : Nvidia Graphics - Hardware , Bengaluru

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: ADITYA SINGH(2019B1AA0962G)

Student Write-up

PS-II Project Title: Fabric Generation Automation

Short Summary of work done during PS-II : The primary focus of the project is to automate the process of SoC Fabric development so it would take minimal human effort to produce the most efficient and capable fabric depending on the SoC's requirements. On the whole, automation can very simply be understood as taking the manual process which was error prone and tedious and getting an application/computer program to produce the same results reducing the time it takes to produce a fabric as well as removing the human error component entirely. In our case, this application will be in the form of a final GUI that is intuitive for end users to operate and successfully takes any and every bit of information required to create a successful and operational fabric without making the process lengthy or tiring for the user.

Tool used (Development tools - H/w, S/w) : VNC Viewer, Perl, Python, Gvim

Objectives of the project : Automation of SoC Fabric development and its optimizations

Major Learning Outcomes : Scripting in Perl

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : All of our work happened via remote machine access through an application called VNC viewer. It helps us acces

systems where the version management software is pre-installed and all the necessary tools we will need to do our work are present. Majority of the work involved editing pre-existing or creating new scripts written in Perl for the purpose of automation of Fabric generation.

Expectations included - Innovate and produce novel solutions to tackling new problems

- Create the most optimum solution at times while also maintaining all the performance requirements

- Creating scalable solutions, maintaining interoperability between various facets of design and optimization

- Being able to work on several tasks parallelly – as one does with pipelining on a chip, a good design engineer should be able to pipeline their work and work as efficiently as possible

Academic courses relevant to the project : Computer Architecture, Digital Design, Microprocessors and Interfacing, Object Oriented Programming, Data Structures and Algorithms

Name: [PODDAR DISHANT PRADEEP .\(2019B2A81032P\)](#)

Student Write-up

PS-II Project Title: MBIST API updates

Short Summary of work done during PS-II : Step mode test is used for Failure Analysis. For that we need to figure out the failing address and failing bit position. Though mbist gives the failing address , it is not accurate because of the offset between address generation and error detection. Had to clean the API to make sure that the step_mode test passes with the new design which we were using from ARM

Tool used (Development tools - H/w, S/w) : Verdi, Linux

Objectives of the project : Update the current API to make sure that the new hardware design from ARM works with our verification environment

Major Learning Outcomes : Learnt about embedded memories inside the chip and how tests are designed to capture manufacturing faults for eg: a "short". How the hardware is designed to use it as a tool post-silicon and the hardware RTL is verified pre-silicon

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very chill working environment, get 2 free days every quarter in addition to usual leaves that you can apply for, where global offices are shut to make sure that you don't work and take time-off. We are given enough time for ramp-up (usually a month) and some managers might expect you to be clear with your core fundamentals at least.

Academic courses relevant to the project : Digital design, VLSI, Comp-arch, Analog electronics (Opamps, RC circuits)

Name: ANIMESH GUPTA(2019B3AA0588H)

Student Write-up

PS-II Project Title: 1) Memory Subsystem Datapath Creation and Analysis Tool, 2) Performance Simulator Post Processing Script

Short Summary of work done during PS-II : In my first project, I created an application in python that allows users to map out the topology of an system on chip, and the transaction flows it supports. It stores all data in a script readable format, and this database is used for running tests to calculate bandwidth loading values across connections. In my second project, I wrote a script to parse log files dumped by performance simulators and extract relevant data. Using that data, it calculates statistics and makes interactable plots in an HTML format.

Tool used (Development tools - H/w, S/w) : Python, Linux

Objectives of the project : 1) Easy creation of the topology and supported flows of an SoC, and BW calculation across connections for a series of transactions, 2) Parse logs dumped by performance simulators, calculate relevant stats such as transaction latency, and provide visualizations using plots.

Major Learning Outcomes : SoC Architecture, Cache Coherency Protocols, Python, App Dev, Data Processing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Nvidia has an excellent working environment with top of line facilities that aid employees in their work. Aside from the office, the recreation areas are also great. The expectations from the company changes from team to team, but for me, I always felt supported and encouraged regarding my work.

Academic courses relevant to the project : Computer Architecture, Digital Design

Name: VIJAY G(2019B4AA1063H)

Student Write-up

PS-II Project Title: Power analysis of GPU memory subsystem

Short Summary of work done during PS-II : The GPU Memory Subsystem power team performs tasks regarding the power utilization of the component in the chip. Basic understanding of various concepts like activity factor, clock frequency, clock gating, was useful to get up to speed with the given tasks. We run different tests to analyse different traffic types handled by the unit. The tests have a level of utilization in each module present in the GPU Memory Subsystem. We are required to understand the GPU Memory Subsystem power flow. With this we will be able to develop an understanding and utilise different synthesis tools. Further, we will evaluate power efficiency of different synthesis tools and infer the various parameters that are factored into the working of these tools.

Tool used (Development tools - H/w, S/w) : Synopsys tools - design compiler, fusion compiler, verdi

Objectives of the project : Power analysis, power optimization, design verification

Major Learning Outcomes : Solidified understanding of power concepts. Gained experience working on power gating and clock gating.

Details of Papers/patents : n/a

Brief Description of working environment, expectations from the company : Great working environment, supportive team members. Always created opportunities to learn and apply concepts. Expanded perspective on hardware domain and related fields.

Company expectations - expects you to be responsible enough to manage time and bandwidth. Always keep track of the bigger picture and what you are working on - how will it impact in the long run.

Academic courses relevant to the project : ADVD, DD, ED, Comp Arch, FPGA lab

Name: FAHD AASMAN SETH.(2019B5A30455P)

Student Write-up

PS-II Project Title: MSS RTL Design Automation

Short Summary of work done during PS-II : To generate perl script which serve the purpose of automating the generation of RTL Stubs for various verilog modules in the chip architecture

Tool used (Development tools - H/w, S/w) : Perl, Unix, Linux, Verilog, SV

Objectives of the project : To generate perl script which serve the purpose of automating the generation of RTL Stubs for various verilog modules in the chip architecture

Major Learning Outcomes : RTL, Verilog, Perl, Automation

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : As an intern at our company, I am incredibly fortunate to be part of an environment that prioritizes the well-being and growth of its interns. From day one, effective communication has been emphasized, creating a culture where everyone feels heard and valued. This openness fosters collaboration and learning among interns and full-time employees alike.

Diversity and inclusivity are not just buzzwords here; they are woven into the fabric of our company's culture. I've experienced firsthand the richness that comes from embracing different perspectives and backgrounds. It's inspiring to see how our company celebrates and respects each individual's unique contributions.

One of the most valuable aspects of my internship has been the opportunities for growth and development. Through mentorship programs, training sessions, and clear guidance, I've been able to enhance my skills and explore various career paths within the company. The support I've received has been instrumental in shaping my professional journey.

Moreover, our company understands the importance of maintaining a healthy work-life balance, even for interns. Flexible schedules and remote work options have allowed me to manage my workload effectively while still having time for personal pursuits and relaxation.

I am also grateful for the recognition and appreciation I've received during my internship. Whether it's a simple thank you or more formal acknowledgment, feeling valued motivates me to perform at my best.

Lastly, the physical workspace provided for interns is not just functional but also comfortable and inviting. From ergonomic workstations to well-equipped facilities, our company ensures that interns have everything they need to succeed.

In conclusion, my internship experience at this company has been nothing short of exceptional. The supportive environment, emphasis on communication and inclusivity, opportunities for growth, work-life balance, recognition, and conducive physical workspace have all contributed to a truly enriching experience. I am grateful to have been part of such a successful internship program.

Academic courses relevant to the project : Digital Design, CP,

Name: SYED AYAZ HUSSAIN(2019B5A81108H)

Student Write-up

PS-II Project Title: Functional validation of low power parameters in high speed interconnects.

Short Summary of work done during PS-II : I worked on low power tuning of NVLink(Nvidia's high speed interconnect). My work was mostly on the scripting part where i helped them automate a few test runs and extract data from the test logs for data analysis. Had to learn about Pcie protocol(Physical layer), Communication networks(7 layer OSI model, equalization, SerDes), shell scripting, python scripting.

Tool used (Development tools - H/w, S/w) : S/w: Python, Shell Scripting H/w: Nvlink, Gen 5 Pcie Keysight interposer, dGPU

Objectives of the project : Validate the functionality of an IP and report the optimal setting for the low power

Major Learning Outcomes : 1) Got to learn how nvlink works, how its used in the dGPU's.
2) Performed various validation techniques to attain low power.
2) Learned shell, python scripting.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Work culture: Very flexible, decent work life balance(depends on which team you are in), transport and food was provided, you can approach anyone regarding anything in office.

For PPO conversion

They take manager, mentors review, team review and there was a panel assessment during last month(3-4 weeks prior the end of internship) and then decide about the offer.

Academic courses relevant to the project : Communication Networks

Name: ANAS KHAN(2019B5AA0896H)

Student Write-up

PS-II Project Title: Dynamic register abstraction layer framework

Short Summary of work done during PS-II : Implemented the necessary features required in the new register model. Added the infra/ framework to multiple heavy reg foot print IPs obtaining significant reduction in compile/ build time.

Tool used (Development tools - H/w, S/w) : UVM, SystemVerilog, Perl, Makefiles

Objectives of the project : Extend support of the new register model to multiple IPs while implementing missing Api's and features in the same.

Major Learning Outcomes : Learnt about the entire register transaction flow, internal operation of system verilog transaction classes, uvm transaction level modelling and great debugging skills.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : People here are really knowledgeable, helpful and easy to approach. During times of full chip netlist activities (close to chip manufacturing stage), it might be difficult for mentors to allocate enough time for interns which can lead to blockers remaining unresolved for weeks but also gives opportunity for independent growth.

Academic courses relevant to the project : Computer architecture (basic), Digital Design, Verilog, Programming (OOPS)

Name: GARVIT VYAS(2020AAPS1805H)

Student Write-up

PS-II Project Title: USB - SOCV BFM Agent Migration

Short Summary of work done during PS-II : During my PS-II, I led a project aimed at integrating the Bus Functional Model (BFM) Agent from the USB Unit Testbench into the System-On-Chip Verification (SOCV) TestBench. The key objectives were to achieve higher-level verification, enhance reusability, implement vertical migration, and establish a modular testbench. A significant aspect of the project involved removing xHCI dependencies from the BFM in the unit testbench. This required careful analysis and modification to ensure the BFM operated independently of specific xHCI components, resulting in a more flexible and adaptable solution. The integration process into the SOCV TestBench was guided by a thorough understanding of Universal Verification Methodology (UVM) and SystemVerilog, facilitating the creation of a robust and scalable verification environment at an elevated level of abstraction. Emphasis was placed on designing modular components for improved reusability, scalability, and maintainability within the testbench architecture.

Tool used (Development tools - H/w, S/w) : UVM, SystemVerilog

Objectives of the project : The objectives of the project involve reusing the existing BFM (Bus Functional Model) Agent from the USB Unit Testbench and integrating it into the SOCV (System-On-Chip Verification) TestBench for higher-level verification, reusability, vertical migration, and modular testbench development. Also, remove the XHCI dependencies from Unit BFM.

Major Learning Outcomes : I gained valuable insights into UVM (Universal Verification Methodology), SystemVerilog, and hardware description languages for verification purposes.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Nvidia fosters a positive and collaborative working environment where teammates and mentors provide strong support. Work assignments are tailored to specific team objectives, accompanied by ample resources for skill development. They encourage a proactive approach to learning, expecting employees to seek clarification and ask questions when faced with challenges. Openness to learning is a key expectation, and they v individuals who actively engage in understanding new technologies. Nvidia's culture promotes continuous learning and knowledge-sharing, with an emphasis on personal initiative for professional growth. Overall, the company's ethos revolves around collaboration, innovation, and a commitment to both individual and collective success.

Academic courses relevant to the project : Object Oriented Programming

PS-II Station : OnSolve Technologies Pvt. Ltd. , Bengaluru

Faculty

Name: Febin A Vahab

Student

Name: UTKARSH TIWARI .(2020A3PS0458P)

Student Write-up

PS-II Project Title: Critical Event Management System

Short Summary of work done during PS-II : Backend development using C# and asp.net

Tool used (Development tools - H/w, S/w) : VS Code

Objectives of the project : To create an event management project

Major Learning Outcomes : C#, ASP.NET,

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very good, supportive,

Academic courses relevant to the project : NA

PS-II Station : Ontap Direct Pvt. Ltd. , Bengaluru

Faculty

Name: Shreyas Suresh Rao

Student

Name: MUDIT PITHI .(2019B2A11009P)

Student Write-up

PS-II Project Title: 1)Business Optimization through Data Analysis, 2) Enhancing Revenue through Marketing Strategies. 3) Market Case Study on Piloting International Operations in Nepal's Beverage Market.

Short Summary of work done during PS-II : One of the core responsibilities of my internship was the systematic analysis of weekly data acquired from Ontap's e-commerce website. Certain checkpoints were placed, which involved a multifaceted approach to extract meaningful insights. I was also engaged in various marketing strategies like upselling, cross-selling, and feedback loops to enhance business development and contribute to the growth of Ontap.

Tool used (Development tools - H/w, S/w) : Excel, SQL

Objectives of the project : The main objective of the report is to derive insights into customer behavior, sales trends And customer segmentation, all aimed at enhancing Ontap's business strategies and operational efficiency.

Major Learning Outcomes : I learned about how a startup works, time management, teamwork, and tackling and making decisions in high-pressure situations.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment chill, flexible office timings. Company expects someone who is hardworking and dedicated and able to work and make business decisions in high pressure situations.

Academic courses relevant to the project : NA

Name: ASHISH KUMAR SINHA(2019B5A41042G)

Student Write-up

PS-II Project Title: Non tech

Short Summary of work done during PS-II : Market analysis in excel. Customer support.

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : Growth

Major Learning Outcomes : Excel

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : NA

Academic courses relevant to the project : NA

PS-II Station : Opstronomy Health Solutions Private Limited , Hyderabad

Faculty

Name: SRINATH NAIDU

Student

Name: PRAKHAR VERMA(2020A4PS2263H)

Student Write-up

PS-II Project Title: Full Stack Web Developer

Short Summary of work done during PS-II : Create various single page web applications - video reports, mobile web reports, employee management web application.

Tool used (Development tools - H/w, S/w) : Angular, VS Code, HTML, CSS, Javascript, APIs, GraphQL, Remotion.

Objectives of the project : Assist clients in the medical sector by providing single page web applications depending on their requirements to improve their services.

Major Learning Outcomes : Front End Web Development, Teamwork, Communication.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is very friendly and supportive. No pressure and you have flexibility to complete your assigned tasks as you want. The team is hard working and determined to achieve their goals.

Academic courses relevant to the project : Front End Web Development, HMTL, CSS, Javascript

PS-II Station : P2P Microfinance & Allied Services , Lucknow

Faculty

Name: Sandeep Kayastha

Student

Name: RAYMAN SINGH NARWAL .(2020A1PS1058P)

Student Write-up

PS-II Project Title: Advancing Financial Technologies and Client Solutions

Short Summary of work done during PS-II : "Advancing Financial Technologies and Client Solutions," I significantly contributed to enhancing a microfinance web platform, initiated a pioneering MSME loan portal with machine learning capabilities, and provided specialized technical support to SBI bank clients. My work ranged from applying user feedback to refine financial technologies, to laying the groundwork for advanced business loan processing. The journey culminated in a client-focused technical role, directly improving service delivery and operational efficiency. This multifaceted internship sharpened my technical acumen, reinforced my customer service skills, and solidified my role as a catalyst for financial technology advancements.

Tool used (Development tools - H/w, S/w) : Web Development, Database Management, Data Analysis, Product Management, Finance, Machine Learning

Objectives of the project : Enhance microloan accessibility for rural communities. Streamline loan application and processing using advanced web technologies.

Major Learning Outcomes : Domain knowledge acquired:

Fintech and Microfinance: Gained insights into digital financial services.

MSME Sector Dynamics: Learned about financial needs and solutions for small and medium businesses.

Banking Operations: Acquired practical knowledge in cu

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : Decent

Academic courses relevant to the project : CP, ML, FundaFin, Business Communication

Name: AGARWAL MEGHANSH DEVENDRA .(2020A1PS1488P)

Student Write-up

PS-II Project Title: Software Development

Short Summary of work done during PS-II : During the project, I focused on comprehensive web and Android development, gaining proficiency in HTML, CSS, and JavaScript, and mastering frameworks for both frontend and backend efficiency. I extended my expertise to Android app development using Java and Android Studio, understanding key components and lifecycles. The project deepened my understanding of the C# language, particularly in backend development, and honed my skills in SQL for effective database management. Exploring diverse database types provided a valuable overview. Additionally, I delved into frameworks and APIs, enhancing the

functionality of web applications and enabling seamless external service integration. The outcomes reflect a well-rounded skill set, covering web and Android development, programming languages, and database management, positioning me with a comprehensive understanding of software development.

Tool used (Development tools - H/w, S/w) : Visual Studio, SQL Server Management Studio, Android Studio

Objectives of the project : The project aims to enhance the overall functionality of the company's website by enabling users to effortlessly update their profiles and establishing an effective admin portal for comprehensive oversight. An automated mailing system is implemented to streamline communication following user profile verification. Additionally, a dedicated portal is created for users to register and document their daily schemes. The second part of the project focuses on developing a user-friendly e-commerce platform, primarily catering to the sale and purchase of pre-owned clothing items, with a special emphasis on wedding attire. The e-commerce platform is seamlessly extended to an Android app, ensuring broader accessibility. The projects prioritize security, sustainability, and scalability to deliver an optimal user experience.

Major Learning Outcomes : Throughout the project, I achieved proficiency in web development, mastering HTML, CSS, and JavaScript, and delving into frameworks for enhanced functionality. Additionally, I gained valuable insights into Android app development using Java and Android St

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Within the company, I navigated a challenging and, at most of the times, highly toxic working environment that demanded adaptability and a proactive mindset. The team displayed diverse skill levels, exposing a collective proficiency that often fell short of desired standards. Navigating this landscape required a self-driven initiative to bridge skill gaps and find collaborative solutions. The director's short-tempered communication style underscored urgency and contributed to a high-pressure atmosphere, further complicated by limited communication clarity. Task execution often lacked a structured process, prompting adjustments towards project completion. While guidance was mostly or almost never available, my approach involved proactively seeking solutions and fostering a resourceful work ethic. The company's infrastructure was notably below par, posing

additional challenges. Eventually, a transition to the technical support department occurred, a shift not initially outlined in the PSMS. The predominant mode of operation was Work From Office which involved working hours from 9:30 AM to 6:00 PM, Monday to Saturday.

Academic courses relevant to the project : DSA, OOP, Database Management System

Name: CHINMAY BHASKAR MOTHE .(2020A1PS1720P)

Student Write-up

PS-II Project Title: Web Data Integration and Enhancement System

Short Summary of work done during PS-II : Automated ETL processes for seamless integration of external Excel datasets into the relational database. Developed SQL data extraction scripts in ASP.NET framework to extract earnings data of Customer Service Point (CSP) . Designed and Developed web UI in C# to showcase the earnings to 700+ CSPs

Tool used (Development tools - H/w, S/w) : C#,SQL, HTML,CSS,Javascript

Objectives of the project : To implement a secure credential management system. Create an administrative interface to filter, view in excel and delete Employee data. To provide a seamless method for users to print displayed data directly from the webpage.

Major Learning Outcomes : SQL proficiency , ASP.net web development, user experience design

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Overall, the work culture at our company is quite positive. One of the standout aspects is the emphasis on collaboration and teamwork. There's a strong sense of camaraderie among colleagues, and

people are generally supportive of one another. The company values open communication, and there's an effort to maintain transparency in decision-making processes.

Academic courses relevant to the project : OOPs,

Name: SHREYA SINHA .(2020A5PS2023P)

Student Write-up

PS-II Project Title: Enhancing Digital Experiences: Web Application Engineering

Short Summary of work done during PS-II : 1. User-Friendly Web Upgrade - Transforming web applications with SSMS, C#, & JS for user engagement boost. 2. Efficient Automation Drive - Streamlining processes with automated discrepancy emails and Excel reports for increasing efficiency. 3. Strategic Business Insight Project - Leading investability assessments, providing value to various clients and stakeholders.

Tool used (Development tools - H/w, S/w) : visual studio (asp.net), SSMS

Objectives of the project : Intersection of innovation and technology in web application development Paradigm shift in leveraging technology for user experiences and operational optimization

Major Learning Outcomes : -Better Understanding of Web Application Development (SSMS, C#, JS)

- Hands-on Experience in Automation Techniques

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : I believe there are areas for improvement in the workplace culture.

Academic courses relevant to the project : computer programming

Name: ISHA JANGIR(2020B5PS1259P)

Student Write-up

PS-II Project Title: Software Development

Short Summary of work done during PS-II : In the project, I improved web and Android development skills, mastering HTML, CSS, JavaScript, and frameworks. I deepened my understanding of C# for backend web development and enhanced SQL skills for effective database management. Exploring diverse databases and frameworks/APIs enriched my knowledge. These outcomes highlight a broad skill set in web and Android development, programming languages, and database management, showcasing my comprehensive understanding of software development.

Tool used (Development tools - H/w, S/w) : Visual Studio, SQL Server Management Studio, Android Studio

Objectives of the project : The project is committed to developing a user-friendly loan application platform, specifically designed to meet the needs of dairy farmers. This application includes a daily ledger feature, enabling farmers to accurately monitor their daily milk transactions. Furthermore, the platform is seamlessly extended to an Android app, ensuring accessibility to a wider audience. Key focal points of the project include prioritizing security, sustainability, and scalability to guarantee an optimal and secure user experience.

Major Learning Outcomes : In the project, I learned web development (HTML, CSS, JavaScript) and created Android apps (Java, Android Studio). I improved my skills in building strong web applications with C#. Also, I got better at managing databases using SQL. These skills highlight

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : In the company, I adapted to a challenging environment with varying team skills. I proactively filled skill gaps, coped with a quick-tempered director, and adjusted my approach for projects. Guidance was limited, so I adopted a resourceful work ethic. The subpar infrastructure presented extra challenges. I later shifted to technical support, a change not initially mentioned. My usual work hours were from 9:30 AM to 6:00 PM, Monday to Saturday.

Academic courses relevant to the project : DSA, OOP, Database Management System

Name: R ANANTHAN(2020B5PS2021G)

Student Write-up

PS-II Project Title: Software Development

Short Summary of work done during PS-II : During the project, I focused on comprehensive web and Android development, gaining proficiency in HTML, CSS, and JavaScript, and mastering frameworks for both frontend and backend efficiency. I extended my expertise to Android app development using Java and Android Studio, understanding key components and lifecycles. The project deepened my understanding of the C# language, particularly in backend development, and honed my skills in SQL for effective database management. Exploring diverse database types provided a valuable overview. Additionally, I delved into frameworks and APIs, enhancing the functionality of web applications and enabling seamless external service integration. The outcomes reflect a well-rounded skill set, covering web and Android development, programming languages, and database management, positioning me with a comprehensive understanding of software development.

Tool used (Development tools - H/w, S/w) : Visual Studio, SQL Server Management Studio, Android Studio

Objectives of the project : The project aims to enhance the overall functionality of the company's website by enabling users to effortlessly update their profiles and establishing an effective admin portal for comprehensive oversight. An automated mailing system is implemented to streamline communication following user profile verification. Additionally, a dedicated portal is created for users to register and document their daily schemes. The second part of the project focuses on developing a user-friendly e-commerce platform, primarily catering to the sale and purchase of pre-owned clothing items, with a special emphasis on wedding attire. The e-commerce platform is seamlessly extended to an Android app, ensuring broader accessibility. The projects prioritize security, sustainability, and scalability to deliver an optimal user experience.

Major Learning Outcomes : Throughout the project, I achieved proficiency in web development, mastering HTML, CSS, and JavaScript, and delving into frameworks for enhanced functionality. Additionally, I gained valuable insights into Android app development using Java and Android St

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Within the company, I navigated a challenging and, at most of the times, highly toxic working environment that demanded adaptability and a proactive mindset. The team displayed diverse skill levels, exposing a collective proficiency that often fell short of desired standards. Navigating this landscape required a self-driven initiative to bridge skill gaps and find collaborative solutions. The director's short-tempered communication style underscored urgency and contributed to a high-pressure atmosphere, further complicated by limited communication clarity. Task execution often lacked a structured process, prompting adjustments towards project completion. While guidance was mostly or almost never available, my approach involved proactively seeking solutions and fostering a resourceful work ethic. The company's infrastructure was notably below par, posing additional challenges. Eventually, a transition to the technical support department occurred, a shift not initially outlined in the PSMS. The predominant mode of operation involved working hours from 9:30 AM to 6:00 PM, Monday to Saturday.

Academic courses relevant to the project : DSA, OOP, Database Management System

PS-II Station : Pilani Innovation and Entrepreneurship Development Society (PIEDS) , Pilani

Faculty

Name: Anjani Srikanth Koka

Student

Name: ARJUN NAG(2020A8PS2085G)

Student Write-up

PS-II Project Title: Designing the Framework and Action Plan for an Entrepreneurship Event at BITS Pilani

Short Summary of work done during PS-II : I was part of a team which was involved in the conceptualization and development of a comprehensive framework and action plan for a dynamic entrepreneurship event. This involved meticulous planning, resource allocation, and strategic coordination. My responsibilities included defining event objectives, structuring engaging sessions, and establishing partnerships for maximum impact. The framework encapsulated a seamless flow of activities, fostering a collaborative entrepreneurial ecosystem.

Tool used (Development tools - H/w, S/w) : MS Word, MS Excel, MS PowerPoint, LinkedIn, RocketReach, SQL

Objectives of the project : To facilitate meaningful connections between aspiring entrepreneurs and seasoned mentors while offering the students of BITS Pilani an invaluable platform to explore their entrepreneurial aspirations. Additionally, it aimed to inspire and empower students by imparting essential knowledge and skills vital for their entrepreneurial journey.

Major Learning Outcomes : Problem Solving, Critical Thinking, Data Analysis, Market Research, Project Management

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The working environment was good. The team was very approachable.

Academic courses relevant to the project : Principles of Management

Name: DAKSH GOEL(2020AAPS0321G)

Student Write-up

PS-II Project Title: AI/ML Accelerator Designing and implementing

Short Summary of work done during PS-II : As the visionary behind an AI/ML accelerator program, you orchestrated a transformative 24-week journey, meticulously designing and executing a multifaceted curriculum. Your strategic prowess drove partnerships, sessions with industry luminaries, and tailored mentoring sessions, shaping an environment fostering innovation. Your leadership steered week-by-week activities, from the inception of specialized AI/ML sessions to insightful discussions exploring real-world applications. Collaborative projects thrived under your guidance, showcasing interdisciplinary prowess and yielding impactful outcomes. Networking events with industry experts amplified connections, fostering potential collaborations. The program's crescendo featured assessments, sessions on entrepreneurship, and impactful demo days showcasing participants' AI/ML solutions. Your keen eye for detail ensured the program's holistic nature, encapsulating not just technical facets but also ethical dimensions, diving into global frameworks and societal implications. Your dedication orchestrated an intricate tapestry of learning experiences, embedding adaptability, strategic alignment, and ethical considerations within the fabric of the program. This immersive journey reflected your commitment to sculpting the next generation of AI/ML pioneers, laying the groundwork for innovation and ethical leadership in the industry.

Tool used (Development tools - H/w, S/w) : NA

Objectives of the project : Startup and networking

Major Learning Outcomes : Nothing much

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : As the visionary behind an AI/ML accelerator program, you orchestrated a transformative 24-week journey, meticulously designing and executing a multifaceted curriculum. Your strategic prowess drove partnerships, sessions with industry luminaries, and tailored mentoring sessions, shaping an environment fostering innovation.

Your leadership steered week-by-week activities, from the inception of specialized AI/ML sessions to insightful discussions exploring real-world applications. Collaborative projects thrived under your guidance, showcasing interdisciplinary prowess and yielding impactful outcomes. Networking events with industry experts amplified connections, fostering potential collaborations. The program's crescendo featured assessments, sessions on entrepreneurship, and impactful demo days showcasing participants' AI/ML solutions. Your keen eye for detail ensured the program's holistic nature, encapsulating not just technical facets but also ethical dimensions, diving into global frameworks and societal implications.

Your dedication orchestrated an intricate tapestry of learning experiences, embedding adaptability, strategic alignment, and ethical considerations within the fabric of the program. This immersive journey reflected your commitment to sculpting the next generation of AI/ML pioneers, laying the groundwork for innovation and ethical leadership in the industry.

Academic courses relevant to the project : NA

Name: ASHUTOSH KARANAM(2020AAPS1441G)

Student Write-up

PS-II Project Title: Designing the framework and Action Plan for a campus-based entrepreneurship event at BITS Pilani

Short Summary of work done during PS-II : Interacted with startups, planned events, and learnt on how incubators worked

Tool used (Development tools - H/w, S/w) : Notion, Office 365, GSuite

Objectives of the project : Designing the framework and Action Plan for a campus-based entrepreneurship event at BITS Pilani

Major Learning Outcomes : Startups, Incubation, Event Planning

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : I thoroughly enjoyed my internship at the startup incubator. The working environment was positive, and I appreciated the opportunities to contribute to various projects. The experience exceeded my expectations, and I am grateful for the valuable insights gained during my time with the company

Academic courses relevant to the project : New Venture Creation

PS-II Station : Piramal Group - CPD & Critical Care , Mumbai

Faculty

Name: Ankur Pachauri

Student

Name: Nipun Gupta(2019B1A81000G)

Student Write-up

PS-II Project Title: Post Call Analytics and Resume Parser

Short Summary of work done during PS-II : I was part of Piramal Finance's corporate analytics team, where our primary focus was on leveraging AI and ML models embedded with NLP concepts to streamline daily operations. Collaborating closely with both the Customer Experience and Hiring teams, my responsibilities revolved around two key projects: post-call analytics and resume parsing. For post-call analytics, I engineered models that autonomously audited customer agent calls, eliminating the need for manual oversight. This automated process ensured accuracy while significantly reducing operational burdens. Additionally, I developed sophisticated topic modeling techniques to extract valuable insights from the data, aiding various business facets within the company. In tandem, my work on resume parsing aimed to revolutionize the hiring process. By harnessing machine learning and NLP, I created a system capable of automatically parsing resumes. This system not only minimized manual efforts but also intelligently assessed candidates against the specific requirements outlined by the hiring team, efficiently categorizing them for roles within the company. Our initiatives aimed to enhance efficiency, accuracy, and agility across operational and HR functions, optimizing workflows and empowering decision-making processes within Piramal Finance.

Tool used (Development tools - H/w, S/w) : Python-Pandas, Numpy, sklearn. Spyder IDE. MSOffice. SQL, Open AI

Objectives of the project : To create inhouse Post call analytics model for automating auditing process making it more efficient and accurate

Major Learning Outcomes : Got a good understanding of building complete machine learning pipelines, including querying data from the warehouse, data processing, feature engineering, machine learning modelling, hyper-parameter tuning, selection of various metrics and data visualization

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : You are expected to work from 9 to 6. However no one will check unless you have meetings. They won't make you work on weekends. At the beginning you might not get enough work. Later you are

expected own your project and it gets pretty hectic during the last few weeks. This will only happen if you get a good big project. They assign a mentor to us and he/she will guide you throughout the project. My team was required to be in office at least 3 days a week and office was based in Bengaluru. My team was really friendly and supportive. Office is also pretty good with all basic amenities.

Academic courses relevant to the project : Applied Statistical Methods, Artificial Intelligence, Machine Learning

PS-II Station : Piramal Group - CPD & Critical Care , Mumbai

Faculty

Name: Ankur Pachauri

Student

Name: AKSHAT KUMAR(2019B2A31069G)

Student Write-up

PS-II Project Title: PDF Parsing and Document Validation

Short Summary of work done during PS-II : I created a bank statement parser which will parse all formats of bank statement into a single tabular format. I created a document validation code which will check whether a form is filled correctly by the customer or not (Text fields , Signature and Thumbprints)

Tool used (Development tools - H/w, S/w) : Artificial Intelligence , Machine Learning , Data Science , Python , OCR

Objectives of the project : To Parse bank statement and to verify all the details have been filled in forms by the customers using code.

Major Learning Outcomes : Artificial Intelligence , Machine Learning , Data Science , Python , OCR

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment is great. All the co-workers are really helpful and understanding. No one works beyond the office hours

Academic courses relevant to the project : Data Science Minor

Name: ANAMAYA KARORIA(2019B3AA0445G)

Student Write-up

PS-II Project Title: ROI imputation model and Waterfall engine

Short Summary of work done during PS-II : Made a hybrid prediction model to predict rate of interest for external mortgaged loans, so that the conversion rate for BT and TopUps can be improved. Also The Cross-Sell Stack, featuring the innovative Waterfall Engine, is a project designed to automate the process of creating cross-sell waterfalls for various loan types. With a focus on efficiency, customization, and adaptability, the project aims to provide a unified platform for managing cross-selling strategies across a range of financial products.

Tool used (Development tools - H/w, S/w) :
Jupyterhub,dbeaver,mongodb,streamlit,AWS,spyder

Objectives of the project : 1)To predict external tradeline loan rates. 2) to create waterfall engine to automate the waterfall creation

Major Learning Outcomes : Data science, finance models, python,SQL, business analysis

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Great working environment, company gives you projects that actually matter and are implemented towards the growth.

Academic courses relevant to the project : Data science, DBMS, programming

Name: YASH GUPTA(2019B5A80283G)

Student Write-up

PS-II Project Title: Classification Models using neural networks

Short Summary of work done during PS-II : Fine tuned residual neural networks for classification of financial documents into 11 different classes.

Tool used (Development tools - H/w, S/w) : Python , Pytorch , AWS Sagemaker

Objectives of the project : Classification of financial documents using neural networks

Major Learning Outcomes : Neural networks , Machine Learning , Artificial intelligence

Details of Papers/patents :

<https://arxiv.org/abs/1512.03385&sa=U&ved=2ahUKEwj8aGihMiEAXYcGwGHRIFBKoQFnoECAoQAq&usg=AOvVaw1YzbXFkL-t1UOyEpSN2Yq9>

Brief Description of working environment, expectations from the company : Working environment in good , not a lot of pressure , just one suggestion - please do not extend your PS without PPO offer letter

Academic courses relevant to the project : Digital Image processing

Name: DHRUV SHARMA(2019B5AA0773G)

Student Write-up

PS-II Project Title: Customer Profiles Visualizer

Short Summary of work done during PS-II : The Customer Profiles' Visualizer aims to simplify the analysis of customer profiles across various products at Piramal Finance, reducing manual work and improving efficiency. The project involves the development of a dynamic system using tools and technologies like Machine Learning, SQL, React.js, Flask. The project addresses the need for efficient customer profile analysis by automating data extraction, providing an intuitive user interface, and utilizing machine learning for image classification. The use of various technologies and tools contributes to a comprehensive solution for Piramal Finance's analytical needs

Tool used (Development tools - H/w, S/w) : React.js, Flask, PostgreSQL, Snowflake, JupyterHub

Objectives of the project : To create a web application for the stakeholders to view and filter through the customers of the company

Major Learning Outcomes : Flask, Snowflake, AWS, React

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : It's a wonderful learning environment. The peer group is really good and I'd recommend engaging in discussions which will enhance your knowledge. Managers are friendly and easy to approach. Work culture is amazing. You get to play Cricket on Fridays with your team and hardly you have to open up your work laptop after office hours. Overall a great place to intern.

Academic courses relevant to the project : OOP, DBMS

Name: SHYAM SASIDHARAN PODUVAL(2020A3PS0445G)

Student Write-up

PS-II Project Title: HR and Sales Analytics: Insights through Reports and Dashboards

Short Summary of work done during PS-II : Within the realm of Piramal Pharma Limited's Consumer Products Division (CPD), I have had the privilege of contributing to several pivotal projects that exemplify this synergy. These projects include the 'New Joiner Induction Analytics Dashboard,' a fusion of HR and Sales analytics, the Joint Field Work Analytics Report,' a detailed analysis of sales performance, the 'DMS Dashboard,' a dynamic repository of sales data, and the 'SO Attrition Prediction,' offering critical insights into the attrition of Sales Officers in the company.

Tool used (Development tools - H/w, S/w) : Python, Pandas, Excel

Objectives of the project : Prepare reports and dashboards in which business activity was summarised for HR and Sales departments of Piramal, with the objective to aid managers in increasing employee efficiency and cutting costs.

Major Learning Outcomes : Data Analytics skills like data exploration, data cleaning, data manipulation, data reshaping, statistics, business knowledge and dashboarding.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The management expects you to come to office (no WFH policy), and work from 9am-6pm, and are particular about timings. Initial one month will be just learning the tools (mainly pandas and a bit of excel) and working on a simple project. After that the work you do is practically the same as that of an employee with the exceptions of meetings. They expect you to work a lot and get work done as fast as possible which I did not like personally. I once got a whole complex report to make which I had to submit the same day and had to work in office till 8pm, so I think they expect the same output as that of an employee from you. This was in the second month of the internship and I was still learning data reshaping at that time. Related to that, they dont have any proper task assignment procedure or anything. It is just people come to you asking for data and you have to deliver. This is a little bit frustrating that they didnt have JIRA or something similar. They didnt even have any database in place and so all data transfers happened on outlook or teams, and it took insanely long if you are working on a project that needed a lot of input files. Data collection was very tedious and boring - just downloading and renaming lots of excel sheets. Also management does not show any appreciation for the work you do, and they try to exploit interns as much as possible. They tried to keep us back in office till january 10th, even though our placements were going to begin towards december end. In the end they did not even give us a farewell and just asked us to hand over laptops and do knowledge transfer, and the senior manger who was supposed to be managing our internship didnt even meet us once. They cancelled our review meetings and told us to just hand over laptops and all work we did, even after promising that a review meeting will happen over a month ago. Overall they did not show any appreciation for our internship work (even though awards were won by analytics departmet for our work later) and tried to exploit us even more by gaslighting us into believing that we did not work had enough by giving fake examples of some previous interns work.

Academic courses relevant to the project : NA

Name: CHETLURI KAUSHIK(2020A3PS0476H)

Student Write-up

PS-II Project Title: Reject inference analysis of personal loans

Short Summary of work done during PS-II : Made ML models for identification for customers being rejected by a company and have been acquired by a different company for different type of loans.

Tool used (Development tools - H/w, S/w) : Python,sql,aws

Objectives of the project : To help customer acquisition for the company using a data driven approach

Major Learning Outcomes : Learnt how fintech companies use analytics to make data driven business decisions along with technical skills

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good work life balance in the company,which included wfh for 2 days a week,flexible work timings as long as work is getting done on time and output is good.Great collaborative culture and helpful seniors

Academic courses relevant to the project : Machine learning,Data mining

Name: [SIDHARTH .\(2020A3PS0775P\)](#)

Student Write-up

PS-II Project Title: Machine Learning Models for collection team

Short Summary of work done during PS-II : I have made ML models for my Collection team . I made resolution model for bucket-1 customers in Unsecured domain.

Tool used (Development tools - H/w, S/w) : Snowflake,Python,SQL,jupyter notebook.

Objectives of the project : Resolution model for Unsecured loans in collection

Major Learning Outcomes : Learn how modelling works in Risk team of a finance company.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work culture is great and seniors are very helping. Overall it's a great place where you can learn things perfectly and try something new. They appreciate your great work and your work can directly impact the business which is the great thing.

Academic courses relevant to the project : Machine learning

Name: ANURAG(2020A3PS1770G)

Student Write-up

PS-II Project Title: Business Simulator

Short Summary of work done during PS-II : Work is good. Mentor helps a lot.

Tool used (Development tools - H/w, S/w) : Jupyter notebook,sql,python,pandas,aws s3,lambda

Objectives of the project : To forecast and simulate pnl of company

Major Learning Outcomes : To analyse data and present it in a more meaningful way

Details of Papers/patents : Simulator is deployed in the organisation

Brief Description of working environment, expectations from the company : Work is good. Mentor helps a lot.

Academic courses relevant to the project : OOPs,machine learning ,dsa and POM

Name: SUBRAMANIAN V(2020A7PS1371G)

Student Write-up

PS-II Project Title: Logger

Short Summary of work done during PS-II : Logger is a custom library that allows manual developer log entries onto AWS CloudWatch. The library also serves to push metadata containing job statistics, and monitors failed jobs. These statistics can be used to derive valuable insights. The failure of a job can be intimated to the relevant people, and diagnosis of such jobs becomes easy. We decided to use AWS CloudWatch as our service for these log entries. Logging in CloudWatch the way I have solves these issues. This is accomplished using a Python library that I have written. The logger has been designed to capture typically two types of logs. One is the developer logs, and the other is the stat logs. The stat logs pushed onto CloudWatch can be ingested, and valuable insights can be derived at the job and transformation levels. I have written the code for this as well. I pulled data from CloudWatch, parsed them, then converted them to CSV files and pushed them to AWS S3 buckets. Failed jobs are tracked through Fatal Error entries. You pass the reason for the job failure as an attribute. It is recorded in the logs, and a mail sent to the specified recipients with the reason for failure and the CloudWatch URL that one can refer to for the logs of the failed job. This uses the email utilities library that I have written. The logger endpoint for the one who wants to see the stats has been roughly conceptualised with the requirements in mind.

Tool used (Development tools - H/w, S/w) : AWS Services – Glue, CloudWatch, S3 Atlassian – Jira, Confluence Git, Gitlab Figma Web app – HTML, CSS, JS, Flask Generic – Python, PySpark, Jupyter, Snowflake, Databricks

Objectives of the project : To build a logging framework for the BIU to have developer logs, job statistics and track failed jobs/services.

Major Learning Outcomes : Building a product that solves critical issues in the organisation, deploying it in production, and making the users use the library through documentation. My soft skills and interpersonal skills also had a significant learning curve.

Details of Papers/patents : Came up with a confluence page documentation for the users to use the logger library. No paper/patent published.

Brief Description of working environment, expectations from the company : The working environment is very fresher friendly, and you are in a space where you can learn every day. There was constant support and guidance from my manager, mentor and other team members.

Academic courses relevant to the project : Object Oriented Programming, Database Systems, Computer Programming

Name: BHANUPRATAP RATHORE .(2020A7PS1675P)

Student Write-up

PS-II Project Title: cac optimisation and others

Short Summary of work done during PS-II : Used ml and data analysis for the cac optimization

Tool used (Development tools - H/w, S/w) : Python

Objectives of the project : Optimise customer acquisition cost

Major Learning Outcomes : Data science

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Working environment is good , projects provided by company were not upto the mark as mentioned in the psd description (problem statement)

Academic courses relevant to the project : None

Name: ARYAN SANGAM(2020A8PS0578H)

Student Write-up

PS-II Project Title: Dashboard data preparation and Spark implementation

Short Summary of work done during PS-II : To write SQL queries to fetch data required for key dashboards from the company's data warehouse. To implement certain SQL scripts in spark to improve runtime and cut costs for th company

Tool used (Development tools - H/w, S/w) : Snowflake, AWS Glue, Apache spark

Objectives of the project : To write SQL queries to fetch data required for key dashboards from the company's data warehouse. To implement certain SQL scripts in spark to improve runtime and cut costs for th company

Major Learning Outcomes : Learnt about new technologies such as Apache spark

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Flexible working hours and 1 day of work from home per week.

Academic courses relevant to the project : Database management system

Name: SHAH SOMARDH RAJIV(2020A8PS1806G)

Student Write-up

PS-II Project Title: End-to-end Automation of Candidate Onboarding Journey

Short Summary of work done during PS-II : Leveraged Natural Language Processing (NLP) to expedite document processing by creating an Optical Character Recognition - OCR Model to effectively extract and validate data from Aadhar, PAN Cards and Canceled Cheque , reducing the effective processing time . Additionally, automated the verification of Identity process from 3rd party vendors using APIs. In addition to this, I also created dashboards to track metrics on Onboarding, Data Quality and Background Verification.

Tool used (Development tools - H/w, S/w) : Python (Pandas), Azure, QlikSense

Objectives of the project : Automation and Digitization of HR in by using Data Science

Major Learning Outcomes : Learning outcomes include leveraging academic knowledge from courses such as ML and applying them into real life scenarios in the Corporate World. Efficient communication and stakeholder management are also a few skills that would be polished further.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The senior stakeholders involved shall be supportive always. In my role specifically, if interns take up ownership of the project earlier, more responsibility and work would be given ahead. The workload isn't much and work life balance is pretty chill. Seniors are pretty helpful and always try to help out if approached.

Academic courses relevant to the project : Machine Learning, DBMS

Name: SHIRADHONKAR MIHIR ASHISH(2020AAPS1058G)

Student Write-up

PS-II Project Title: FARE Category Model Project

Short Summary of work done during PS-II : During the internship, I worked on building a Machine Learning xgBoost classification model with the help of Hunter database matches. These matched cases included reasons for loan rejection of an applicant with the help of certain rule hits and also had certain decisions. The data extraction process was carried out by writing SQL queries to extract data from tables stored in Snowflake data warehouse. Further feature selection was done for deciding the inputs to be given to the model. The training and tuning process was carried out for obtaining the best results. Further, the model results were categorized as Red, Amber and Green where Red indicated most fraudulent while Green indicated least. At last, the results of this model were compared with the existing rule-based model for checking the current model's performance. The current model's performance was better than the previous model in terms of a higher bad rate for the Red and Amber categories.

Tool used (Development tools - H/w, S/w) : Python (Pandas and Numpy), SQL, scikit-learn, JupyterHub, Excel.

Objectives of the project : The objective of the project was to enhance fraud detection capabilities by leveraging the Hunter database matches.

Major Learning Outcomes : Got to learn about the business of Piramal and several financial terms. Learnt about building a Machine Learning model from scratch right from the data preparation phase. Improved communication skills due to day-to-day interactions with seniors.

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : The working environment at Business Intelligence Unit (BIU) at Piramal Finance is very positive. Everyone was quite helpful in solving any doubts we had. My whole team was very friendly and guided me

throughout the progress of the project. Enough time was given to learn and explore about the project.

Academic courses relevant to the project : Foundations of Data Science, Machine Learning

Name: KAPRE AADITI AJAY(2020AAPS1737G)

Student Write-up

PS-II Project Title: Eccommerce

Short Summary of work done during PS-II : Automating excel reports

Tool used (Development tools - H/w, S/w) : Software pandas, excel

Objectives of the project : Business analyst

Major Learning Outcomes : How an organisation works, eCommerce business strategy and information.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : I had a pretty bad experience and I would not recommend this station to anyone. Nothing new to learn in terms of tech, my interests were in tech and I was randomly allotted non core roles, deeply troubling for me.

Academic courses relevant to the project : None

PS-II Station : Playment Inc - Machine Learning Engineers , Bengaluru

Faculty

Name: Pradheep Kumar K

Student

Name: ADITYA MAHESH HOLIKATTI .(2020A1PS1703P)

Student Write-up

PS-II Project Title: Data Labelling and Annotations Project (2D and 3D)

Short Summary of work done during PS-II : Written scripts for the automation process of various code steps throughout the projects. Worked on annotation and labelling of 2D and 3D format data. Worked on various Image Processing Techniques. Worked on building a Retool Application for the Optical Character Recognition (OCR) Tool.

Tool used (Development tools - H/w, S/w) : Python, JupyterHub, AWS, Retool, Table Plus, SQL, Linear

Objectives of the project : To create automated code steps, work on various Image Processing Techniques and build a Retool Application for Optical Character Recognition (OCR) Tool.

Major Learning Outcomes : Python, JSON Structure Parsing, Open 3D, Image Processing, AWS Functions, DSA

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The work environment of the Company is very pleasant and excellent. The mentor and the colleagues are very supportive and helpful. The work culture of the Company is Amazing.

Academic courses relevant to the project : ML, DSA, OOP

Name: REDDY REDDY HEMANTH REDDY(2020A4PS0905H)

Student Write-up

PS-II Project Title: Data Labelling and Annotation Projects

Short Summary of work done during PS-II : Solution developed for Project 1: 1) Developed a script to automate the data download process. The developed solution makes use of the 'subprocess' library in Python to execute the command-line instructions directly from the Python script. 2) This script takes the data download command as a string input and, upon execution, triggers the specific command in the command prompt. Solution developed for Project 2: 1) In the context of this project, the line annotations were represented with multiple line segments within a single annotation. 2) Developed a Python script to transform this structure into a more granular form, where each line segment in the previously made line annotation would become an individual line annotation. 3) The logic involved iterating through the segments of each original line annotation's JSON structure, extracting relevant information, and creating new line annotations from each segment present in the original line annotation based on this information. 4) A crucial logic in achieving this transformation involved mapping the edges of each segment to their corresponding points, resulting in a more comprehensive representation of the line annotations. Solutions developed for common use-cases in these projects: 1) Developed a python script for changing the resolution, quality of an image. 2) Worked on a python script to reduce the fps parameter of video data since the data volume received from the client was huge and performing annotations on all frames would be strenuous. 3) Performed pixel-level manipulations on segmented images, involving both pixel removal and addition for precise adjustments.

Tool used (Development tools - H/w, S/w) : JupyterHub, Python, PostgreSQL, AWS s3.

Objectives of the project : Contributed to the development of solutions for two major projects. The solutions developed had the following respective objectives: 1) To automate the data retrieval process which was initially done by entering the command line instructions manually on

the command prompt. 2) The primary objective was to reformat the line annotation data to enhance its granularity, making it more manageable and conducive to further analysis. 3) To work on common use-cases in these projects such as: a) Changing the resolution, quality of an image. b) Changing the fps (frames per second) parameter of video data (also known as Temporal Video Downsampling).

Major Learning Outcomes :

- Image processing techniques such as image resizing, changing image resolution, video downsampling, and performing pixel-level manipulations on segmented images, involving both pixel removal and addition for precise adjustments.
- Custom modification

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work-life balance is excellent, thanks to a 5-day week and a hybrid system. Managers are approachable, and the people are helpful, making it a really good environment for learning. The workplace offers a comprehensive understanding of end-to-end work, providing opportunities to explore various avenues of interest.

Academic courses relevant to the project : Foundations of Data Science, Machine Learning.

PS-II Station : Playment Inc - Software Engineering -Solution Development , Bengaluru

Faculty

Name: Vimal S P

Student

Name: JAVIN BACHANI(2019B1A81068G)

Student Write-up

PS-II Project Title: Software Development

Short Summary of work done during PS-II : Managed and Setup different workflows on Amazon Web Services and Azure

Tool used (Development tools - H/w, S/w) : AWS, Azure, Terraform, Kubernetes, Docker

Objectives of the project : Setup data pipelines on AWS

Major Learning Outcomes : System Design, CI/CD Tools, Cloud Computing

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Really great WLB-Only 2 days Office. Opportunity to work with really smart people on the latest tech. Self-specified working hours and really fun games in office (Xbox, pool table)

Academic courses relevant to the project : Intro to Computer Programming, Computer Architecture

PS-II Station : Porter - Analytics , Bengaluru

Faculty

Name: Arindam Roy

Student

Name: PRAKHAR JAIMAN(2019B1A81136G)

Student Write-up

PS-II Project Title: Analyst intern at porter

Short Summary of work done during PS-II : -

Tool used (Development tools - H/w, S/w) : Metabase, Snowflake, DBeaver,

Objectives of the project : To help grow courier business by doing analysis.

Major Learning Outcomes : Python, SQL, Business

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : -

Academic courses relevant to the project : Probability and Statistics

PS-II Station : Porter - Business Strategy , Bengaluru

Faculty

Name: Sandeep Kayastha

Student

Name: PRATYUSH GUPTA(2020A4PS2228H)

Student Write-up

PS-II Project Title: Developing Pickup - Infrastructure in Delhi NCR

Short Summary of work done during PS-II : I had developed Pickup infrastructure in Delhi NCR.

Tool used (Development tools - H/w, S/w) : NA

Objectives of the project : Objective of the Project is to build first mile pickup infrastructure for Porter Courier

Major Learning Outcomes : Negotiations Skills, Operations, Supply Chain

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Too much work for too less money .

Academic courses relevant to the project : Supply chain management, optimization

PS-II Station : Porter - Product Management , Bengaluru

Faculty

Name: Sandeep Kayastha

Student

Name: GARIMA SINGH(2019B5A41076H)

Student Write-up

PS-II Project Title: Improving Booking and Service Experience in Packers and Movers

Short Summary of work done during PS-II : In conclusion, my Porter internship transformed me, instilling vital product management skills. Hands-on experience enhanced my technical and strategic abilities. The collaborative environment honed effective communication and stakeholder management, refining my teamwork and problem-solving skills. Active participation in quarterly planning aligned my efforts strategically with organizational goals. This internship deepened my understanding of the courier industry, shaping me into a versatile professional. Reflecting on this journey, I'm confident these skills will be foundational, contributing to continuous improvement in product management. Grateful for the opportunities, I eagerly anticipate applying these skills in my ongoing pursuit of professional growth.

Tool used (Development tools - H/w, S/w) : Metabase, Salesforce

Objectives of the project : To make user flow better, increase conversions, reduce cost to serve

Major Learning Outcomes : Worked on problem discovery, reducing cost to serve, Quarter planning, Analysis, Stakeholder management

Details of Papers/patents : No paper more of business impact

Brief Description of working environment, expectations from the company : Work environment is pretty good, colleagues are very helpful, Got a good exposure of product work, also learnt a lot and worked on interesting and contributing projects.

Academic courses relevant to the project : Supply chain Management, Product Cohort

PS-II Station : Probe Information Services Pvt. Ltd. , Bengaluru

Faculty

Name: Anita Ramachandran

Student

Name: HITESH REDDY PENUGONDA(2019B1A30428G)

Student Write-up

PS-II Project Title: Software Engineering Internship at Probe Information Services

Short Summary of work done during PS-II : Work involved formulating prompts for GPT to generate precise responses for user queries, chunking large datasets into digestible formats within token limits for GPT processing, integrating Django framework for robust backend functionality including authentication and API calls, using Pinecone and Langchain for better data analysis and retrieval, leveraging Postman to test backend APIs.

Tool used (Development tools - H/w, S/w) : Django, Python, GPT-3.5, MongoDB, Pinecone, Langchain, Postman

Objectives of the project : To develop ProbeGPT, a web platform to provide company information using GPT AI capabilities. Key objectives included integration of authentication, API calls to GPT, chat history storage etc.

Major Learning Outcomes : Prompt engineering for GPT, indexing/vectorization of large datasets, Django framework integration, Pinecone and Langchain for data processing, Postman for API testing

Details of Papers/patents : No papers or patents generated

Brief Description of working environment, expectations from the company : Probe Information Services provides an excellent working environment, promoting learning and growth. Expectations included quickly upskilling on technologies like Django and leveraging my skills for

prompt engineering, data analysis etc. Needed to collaborate with teams on designing effective solutions. Overall, great exposure to real-world software development

Academic courses relevant to the project : Object Oriented Programming., Computer Programming., Database Management Systems, Machine Learning, Natural Language Processing

Name: HIMANSHU JAIN .(2019B5A40737P)

Student Write-up

PS-II Project Title: Software Engineering Internship at Probe Information Services

Short Summary of work done during PS-II : During my internship, I was the part of project Mercury team. Initially, I focused on prompt engineering, fine-tuning prompts to boost response accuracy, and constructing report prompts for extracting company data from the database. I conducted a thorough comparison between GPT-3.5 and GPT-4 to determine which version yielded better results for various prompts. I contributed to the development of display prompts functionality, allowing users to choose which prompts to show on the UI. Additionally, I delved into Jenkins for backend deployment, creating webhooks to reflect Bitbucket repository changes and integrating them to display server status on our UI. My involvement with the Django framework included understanding files like models.py and views.py, and I aided in code refactoring by documenting API naming best practices. In collaboration with the team, I extensively tested API responses using Postman. I dedicated two weeks to studying Jenkins and its deployment mechanisms. I also documented and implemented the concept of LLMID in the client and report tables, contributing to overall system improvement. Furthermore, I focused on Django ORM, identifying best use cases to enhance code performance. My multifaceted role and contributions were pivotal in optimizing the ProbeGPT app.

Tool used (Development tools - H/w, S/w) : Django, Python, GPT-3.5, MongoDB, Pinecone, Langchain, Postman

Objectives of the project : To create ProbeGPT, a web-based platform designed to furnish company information through the capabilities of GPT AI. Primary goals encompassed the incorporation of authentication, API interactions with GPT, and the storage of chat history, among other functionalities.

Major Learning Outcomes : Engineering prompts for GPT, indexing and vectorization of extensive datasets, integrating with the Django framework, employing Pinecone and Langchain for data processing, and utilizing Postman for API testing.

Details of Papers/patents : No papers or patents generated

Brief Description of working environment, expectations from the company : At Probe Information Services, a conducive work environment fosters learning and professional development. Expectations involved rapid skill acquisition in technologies such as Django, applying expertise in prompt engineering and data analysis. Collaboration with teams was essential for designing effective solutions, providing valuable exposure to real-world software development.

Academic courses relevant to the project : OOPs, NLP, Machine Learning

PS-II Station : Project44 Software Services Pvt. Ltd. , Bengaluru

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: VIKRAM ADITYA MUNNALAL(2019B1A71119G)

Student Write-up

PS-II Project Title: Improving Ocean Real Time Tracking

Short Summary of work done during PS-II : Implemented alerts in grafana for observability so that we could proactively address issues to avoid incidents. Improved system stability by migrating data to snowflake and setting up a retention policy to delete older data. Increased milestone completeness by creating a milestone mapping tool and reduced latency by setting up different feature flags/queues to meet customer latency requirements. Implemented caching and chunking for periodic tasks to reduce run time and increase stability. Worked on data acquisition from API integrations and converting it to p44 standard format.

Tool used (Development tools - H/w, S/w) : django, python, api integrations

Objectives of the project : Increase the stability of the product, Improve the observability and alerting, Improving milestone completeness and reducing latency

Major Learning Outcomes : Key takeaways include understanding bottlenecks for large distributed systems, identifying pain points for monitoring and observability and data acquisition from API integrations. Honed technical skills in django and python. In general, learned how to con

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Everyone was super approachable and no question ever felt unwelcome. I got to learn a lot from all my peers and everyone would help out if they had bandwidth. It was an amazing experience overall.

Academic courses relevant to the project : DBMS, OS, DSA

Name: SHLOK MONGIA(2019B2A71527H)

Student Write-up

PS-II Project Title: Tooling to facilitate ELD connections

Short Summary of work done during PS-II : The implementation of a highly optimized Golang service utilizing goroutines showcased a remarkable achievement in efficiency and performance. This service was designed to fetch and parse approximately 20,000 log files stored on Amazon S3 every hour. The original estimated time for this process was a staggering 15 hours. However, through the strategic use of Golang and the concurrent processing capabilities afforded by goroutines, the turnaround time was significantly reduced to an impressive 30 minutes. This not only exceeded initial expectations but also exemplified the power of leveraging cutting-edge technologies for enhanced speed and resource utilization. Additionally, a strategic migration of an existing service to a new tech stack resulted in substantial cost savings, amounting to \$250,000 annually. This transformative move showcased the organization's commitment to financial efficiency and underscored the positive impact that technological modernization can have on the bottom line. The successful execution of these projects not only demonstrated technical prowess but also positioned the organization for increased productivity, cost-effectiveness, and resilience in the ever-evolving landscape of logistics technology.

Tool used (Development tools - H/w, S/w) : C++, SpringBoot, Freemarker, Golang

Objectives of the project : Golang + s3 log parser

Major Learning Outcomes : Backend development (Java, C++, go, freemarker)

Git (version control)

Project Management and Agile Software Development with Jira

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : At project44, the team is fantastic – everyone is friendly, helpful, and you can approach anyone, no matter their role. The work environment is great because it gives you a lot of freedom to learn, grow, and be a part of important projects that really matter. The company wants you to be creative, share your ideas, and come up with smart solutions to problems. They value open-mindedness, which means being open to different perspectives and new ways of doing things.

Overall, project44 is a really good place to work! They create a supportive atmosphere where you can learn, contribute, and be a part of exciting projects. It's not just about your job – they encourage you to think creatively and share your thoughts. The company trusts its team members and gives them the freedom to take on responsibilities and make a real impact. In a nutshell, project44 is a fantastic organization that values its people, encourages growth, and is a great place to be if you want to work on important and interesting projects.

Academic courses relevant to the project : DSA, OOPS, DBMS, OS, SWE

Name: [DHAIRYA MISHRA\(2019B4A70759G\)](#)

Student Write-up

PS-II Project Title: TrackOs

Short Summary of work done during PS-II : During my PS-II internship at project44, my primary focus was on advancing logistics technology and supply chain management through substantial contributions to the TrackOs platform. I played a key role in the integration of various transportation modes, such as air, ocean, and the introduction of the barge mode. This involved solving Jira tickets, debugging errors, and introducing innovative features to enhance the functionality of the tracking systems. I introduced a system event mechanism to trigger the rendering of shipments, ensuring timely updates in response to bug fixes. Documentation was a crucial aspect of my responsibilities, and I created runbooks detailing procedures for efficient data fetching. This not only facilitated current tasks but also served as a valuable resource for future data-related efforts. Throughout the internship, I enhanced both technical and soft skills, from backend engineering and API integration to effective communication and collaboration within a dynamic team environment. These experiences collectively shaped my understanding of logistics technology and prepared me for future challenges in the rapidly evolving tech landscape.

Tool used (Development tools - H/w, S/w) : python, github, datadog, jira

Objectives of the project : The project objectives were to advance logistics technology by integrating various transportation modes, resolve system issues in air door-to-door tracking, introduce innovative features, and enhance system stability, ultimately contributing to the optimization of supply chain management at project44.

Major Learning Outcomes : Developed backend engineering skills and gained experience in API integration.

Resolved Jira tickets, honing problem-solving and debugging abilities.

Implemented a system event for efficient rendering of shipments, showcasing understanding of event-driven

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment during my internship at project44 was characterized by a friendly and collaborative atmosphere. The company fostered a culture of approachability, where individuals across small teams were readily available to offer support and guidance. This inclusivity created a conducive space for open communication and shared problem-solving.

The teams demonstrated a strong sense of camaraderie, contributing to a positive and supportive work culture. Despite the demanding nature of the tasks at hand, the collaborative spirit prevailed, making the work environment dynamic and engaging. Colleagues were consistently helpful, creating a space where learning and knowledge exchange were actively encouraged.

Expectations from the company were aligned with a commitment to excellence and innovation. The work environment encouraged individuals to take on challenging tasks, contributing to the overall advancement of logistics technology. The company's emphasis on small teams allowed for a personalized approach, ensuring that each team member felt integral to the collective success of the projects.

In essence, the working environment at project44 was characterized by a harmonious blend of friendliness, collaboration, and a dedication to tackling challenging tasks, creating an atmosphere conducive to both personal and professional growth.

Academic courses relevant to the project : DSA, DAA, DBMS, OOP, OS

Name: SHIVAM SAWLANI(2019B4A70806G)

Student Write-up

PS-II Project Title: Improve Historical Shipments List to match Manifest(an inhouse design theme)

Short Summary of work done during PS-II : I was a part of the frontend team engaging in three pivotal projects that collectively enhanced my technical proficiency and contributed significantly to the organization's objectives. The implementation of Playwright test cases was instrumental in fortifying the application's stability, automating testing processes to identify and rectify potential issues early in the development cycle. Externalizing Looker dashboards was undertaken to improve data accessibility and facilitate data-driven decision-making, aligning with the industry's emphasis on business intelligence tools. Additionally, the redesign of the Connection Manager UI showcased my versatility, focusing on improving usability and visual appeal to enhance the overall user experience. Throughout these projects, I not only gained hands-on experience in frontend development with React.js and TypeScript but also delved into backend technologies, testing automation with Jest and Playwright, and the integration of Agile methodologies using Jira. The internship provided insights into industry trends, emphasizing the significance of automated testing, business intelligence, user-centric design, and cross-functional collaboration.

Tool used (Development tools - H/w, S/w) : React.js, Nest.js, Typescript, Playwright, Jest

Objectives of the project : Enhance overall code stability and reliability and improve UI/UX.

Major Learning Outcomes : Diversify Technical Skills and Improve Communication skills

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment at project44 a positive and collaborative atmosphere that facilitated a dynamic and effective workflow. The team, comprised of talented professionals, fostered a supportive culture where collaboration and knowledge-sharing were integral. The environment encouraged open

communication, making the team approachable and readily available for assistance, which significantly contributed to a positive work experience.

Expectations from the company were aligned with industry best practices, emphasizing a commitment to excellence and innovation in logistics technology. The organization embraced Agile methodologies, utilizing tools like Jira for project management, reflecting a focus on adaptability and iterative development. The emphasis on automated testing, demonstrated through the implementation of Playwright test cases, highlighted a dedication to ensuring the reliability and stability of software applications.

The company encouraged versatility, as evidenced by involvement in diverse projects ranging from UI redesign to backend integration. Expectations included a proactive approach to problem-solving, effective collaboration across teams, and a commitment to continuous learning. Overall, the combination of a supportive working environment and clear expectations contributed to a conducive atmosphere for both personal and professional growth during the internship at project44.

Academic courses relevant to the project : DSA, OOP, DBMS

PS-II Station : Propellyr Chaintech Pvt. Ltd. , New Delhi

Faculty

Name: Madhuri Bayya

Student

Name: SNEHIL S KUMAR .(2019B2A30985P)

Student Write-up

PS-II Project Title: Blockchain Data Analytics and LLM based data analytics

Short Summary of work done during PS-II : Built a data analysis chatbot where one can chat with the cab and get data analytics insights from the data, other project was related to building GraphQL APIs for a portfolio management application for creation of portfolio and efficient asset allocation in the portfolio.

Tool used (Development tools - H/w, S/w) : Python, Java, Docker, Cloud computing, Kubernetes, LLMs

Objectives of the project : Building an LLM based application for data analysis insights from any kind of data, Building a portfolio management llm based application for AI based portfolio creation and optimization based on financial Models.

Major Learning Outcomes : Python, GraphQL, Java, RestAPIs, LLMs, Finance

Details of Papers/patents : No paper

Brief Description of working environment, expectations from the company : Awesome working environment , supportive team member, learnt a lot about the product space, No heirarchy, everyone is equal and appreciates the work

Academic courses relevant to the project : AI, Data Analysis

PS-II Station : ProteanTecs , Bengaluru

Faculty

Name: Swapna S Kulkarni

Student

Name: PRABHAT KUMAR MISHRA .(2019B2A80225P)

Student Write-up

PS-II Project Title: Ramp up on RTL2GDS Flow

Short Summary of work done during PS-II : As an Implementation intern I was working on integrating the patented proteanTecs solution into design RTL, performing verification, synthesis, Place and Route, Static Timing Analysis (STA) and meeting PPA requirements. I worked with the latest industry standard tools and towards improving the quality of the proteanTecs solution.

Tool used (Development tools - H/w, S/w) : Cadence, Synopsys,TCL

Objectives of the project : RTL2GDS Flow on various design solutions developed by the company.

Major Learning Outcomes : Resolving challenges in design implementation, Innovating and Developing the Automated flows and processes of the company's patented solutions.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was good.

Academic courses relevant to the project : Analog and VLSI Design

Name: [ATMESH MAHAPATRA .\(2019B4A30560P\)](#)

Student Write-up

PS-II Project Title: Ramp up on RTL2GDS

Short Summary of work done during PS-II : As Physical Design Interns, we ramped up on RTL2GDS Flow, Our hands-on experiences involve synthesizing high-level RTL descriptions,

optimizing logical functions, and navigating the physical implementation phase. Key aspects include placement, clock tree synthesis, routing, and optimization to achieve optimal performance, power efficiency, and area utilization. This immersive learning experience emphasizes the collaborative use of Genus and Innovus in successful chip fabrication, equipping us with a deep understanding of the critical processes involved in transforming abstract design into a manufacturable chip.

Tool used (Development tools - H/w, S/w) : Tcl, Cadence Innovus and Genus, Synopsys FC, DCNXT and ICC2.

Objectives of the project : To Understand the Physical Design Process to help the firms' operations.

Major Learning Outcomes : Physical Design Process and workings of VLSI Industry

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is conducive for learning. The team is extremely cooperative and helpful and take extra measures to ensure that our queries and doubts are resolved.

The company expects interns to be inquisitive and to do tasks correctly and methodically.

Academic courses relevant to the project : DD, ADVD

Name: RAJEEV RAJAGOPAL .(2020A3PS1237P)

Student Write-up

PS-II Project Title: RTL to GDSII flow of silicon health monitoring circuits

Short Summary of work done during PS-II : The physical design and RTL-to-GDSII flow in semiconductor projects involve the integration of RTL (Register-Transfer Level) descriptions into

a GDSII (Graphic Data System II) file, ready for fabrication. This comprehensive process includes RTL integration, where high-level descriptions are combined, synthesis for gate-level netlist generation, place-and-route for optimizing physical layout, thorough verification to ensure design accuracy, and finally, signoff for tape-out readiness. The project encompasses a spectrum of activities from IP integration, floorplanning, and clock tree synthesis to power planning, extraction, and timing closure. Each step is critical, requiring tools like Genus for synthesis, Innovus for place-and-route, PrimeTime for timing analysis, Star-RC for parasitic extraction, IC Validator for design rule checking, and Redhawk for power integrity. The collaborative orchestration of these elements ensures a seamless transition from RTL descriptions to a finalized GDSII file, marking the completion of the design-to-fabrication journey.

Tool used (Development tools - H/w, S/w) : Cadence and synopsys PnR and signoff tools, TCL

Objectives of the project : RTL to GDSII flow of silicon health monitoring circuits

Major Learning Outcomes : Physical design flow and concepts, Synopsys and Cadence tools for PnR and Signoff, TCL scripting for bug fixes

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : No prior knowledge apart from basic electronic circuit concepts and static timing analysis, quick learning and interest in electronics and chip design

Academic courses relevant to the project : ADVD, Microprocessors and Interfacing,

PS-II Station : Quality Council of India (QCI) (IT - CS) , Delhi

Faculty

Name: Gopalakrishnan Venkiteswaran

Student

Name: Y S G AKSHAY(2020A7PS1735G)

Student Write-up

PS-II Project Title: Sarpanch Samvaad

Short Summary of work done during PS-II : Worked on web scraping, data cleaning, analysis. Managed the admin dashboard of the app and resolved issues in registration of users. Coordination with development and design vendors. Writing vision documents, designing onboarding flows, verification criteria etc. Drafting requirements doc, press releases

Tool used (Development tools - H/w, S/w) : Selenium, AWS EC2, AWS S3, Google Analytics, sheets, docs, mantis(bug tracker), admin dashboard

Objectives of the project : To connect and empower Sarpanchs across the country and ensure quality at the grassroots level

Major Learning Outcomes : Data Engineering, web scraping, data analytics, public sector and rural governance, project management

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Very professional and friendly teams, freedom to explore and contribute according to one's interests and skill set. Expected to maintain professionalism, contribute actively and take initiative.

Academic courses relevant to the project : Professional Ethics, Business communications, Operating systems(multithreading and multiprocessing), DBMS

PS-II Station : Quality Council of India (QCI) (IT - Non CS) , Delhi

Faculty

Name: Gopalakrishnan Venkiteswaran

Student

Name: AARAV GOEL .(2020A1PS1696P)

Student Write-up

PS-II Project Title: IT(Non-CS)

Short Summary of work done during PS-II : Worked on 2 websites and one mobile application for QCI, also handled deployment of said websites and management of AWS servers and database management.

Tool used (Development tools - H/w, S/w) : Many javascript frameworks, AWS, MYSQL, MongoDB, Git, Postman

Objectives of the project : To help and assist the development of tools and websites for the company

Major Learning Outcomes : Learned a lot about software development, development cycles, JS frameworks, Backend, AWS deployment, Database Management

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Very friendly and helpful people in the company, did not hesitate to help me when I was stuck, made a very friendly bond with them

Academic courses relevant to the project : None

PS-II Station : Quality Council of India (QCI) , Delhi

Faculty

Name: Rajiv Ranjan Gupta

Student

Name: ARSH KHAN(2018B1A40927G)

Student Write-up

PS-II Project Title: I had multiple projects. I was one of the co-founders of the Data Analytics and Research Wing (DARWIN) - Policy Unit at the Quality Council of India.

Short Summary of work done during PS-II : I was a part of multiple projects. 1. Needs assessment for Data Analytics and Research Wing (DARWIN) 2. Searching for relevant AI tools to aid work in QCI 3. Various uses of AI/ML in organizations 4. Data visualizations for DARPG (Department of Administrative Reforms and Public Grievances) 5. Data visualization for FCI project 6. Suggesting questions to check data security 7. Setup a chatbot based on LLMs on poe.com 8. Searching for documents online on data security, especially in the context of Government organizations 9. Which GI/ODOP products are largely manufactured by the SC/ST community. 10. Making a document on local manufacturers in India in the field of: 1. Sports 2. Handloom 3. Utensils 11. Contribution to formatting the Excel file that had to be filled by PPID project managers 12. Document for National Framework for Climate Services (NFCS) for India 13. Document for Improving user engagement and uptake of climate services in China 14. Document for recommendations for the UK national framework for climate services 15. Document for Implementing GFCS: Swiss and German national showcases 16. Document for the research

paper 'The Foundation Model Transparency Index' 17. (on-going) Research work on proposals on applications of algorithmic auditing techniques in India

Tool used (Development tools - H/w, S/w) : PowerBI, typeset.io, Google Sheets, Google Doc

Objectives of the project : Different project had different objectives. Primary project was on suggested framework for improved algorithmic auditing in India

Major Learning Outcomes : About the application of AI tools; about data visualization; about the foundation model transparency index was developed by researchers from Stanford University, MIT and Princeton University; about spreadsheets, about research, about India's public sector

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : I worked in the data analytics and research wing of the policy unit. The seniors are very kind and supportive. When ill the seniors themselves ask us to take work from home or leave. Work pressure is not very high. It's possible to start projects on your initiative.

Academic courses relevant to the project : Mostly it wasn't directly related to my coursework.

PS-II Station : Quizizz Inc. , Bengaluru

Faculty

Name: Vimal S P

Student

Name: ROHAN SRISAI KANNEGULLA(2020A7PS1302H)

Student Write-up

PS-II Project Title: No title

Short Summary of work done during PS-II : I had 5 major projects all on the frontend, 1. Quiz not found page, - the page shown when a bot or user searches for a deleted or invalid quiz. 2. Quiz Page Recommendations- changed the recommendations on the quiz page to a new search based algorithm, 3- logrocket - implemented a session recording system to see bottlenecks and areas of bother in the product, 4- worksheet 2CTA, added a new call to action and video tooltip to drive more traffic from the worksheets to the quizpage, 5- print page revamp, make the worksheets compatible with all 19 question types

Tool used (Development tools - H/w, S/w) : Vscode, github, vue, node, html , tailwind css,

Objectives of the project : SEO, product oriented development

Major Learning Outcomes : How to use git, github, aws, vue.js framework around js

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : there are team of around 15-20 consisting of Developers, Designers, Data Analysts and Product Managers. Everyone was very supportive and always looking to help whenever you asked for it. First one month was given to just understand the codebase and solve minor bugs to get used to the deployment system, etc. After the first month we were assigned specific teams and were only to do team specific work and projects. Things started out slowly even after joining specific teams, bigger projects started from the 3rd month onwards and picked up pace from there, with projects being ready immediately after the completion of one. You end up working with all pods of the team - devs, analytics, design and product. To get one project out you need approval from all the pods who check their respective parts of the project. I had a very nice team who I became good friend with.

Academic courses relevant to the project : DSA, DBMS, OOPS

Name: YASH ADITYA(2020A7PS1731G)

Student Write-up

PS-II Project Title: Software Development Engineering Internship

Short Summary of work done during PS-II : My work includes both frontend and backend domains. For frontend I used the Vue framework and in the backend I used Node , JS and TS to complete the various tasks assigned to me.

Tool used (Development tools - H/w, S/w) : Vue, Node, TS, JS ,Python, JS libraries

Objectives of the project : Incrementally taking on more challenging projects so as to be able to upgrade from the level of an intern to a full time employee

Major Learning Outcomes : 1. Understanding how an actual software development workflow proceeds in the context of a high growth startup. 2. Application of theoretical concepts learnt in academic coursework.

Details of Papers/patents : No papers / patents applicable

Brief Description of working environment, expectations from the company : A place that fosters learning and innovation. The office facilities, equipment provided, peers all have been instrumental in accelerating my learning here.

Academic courses relevant to the project : OOPs , OS, DSA

PS-II Station : Qure.ai Technologies Pvt. Ltd. - Client Success & Operations , Mumbai

Faculty

Name: Swarna Chaudhary

Student

Name: KRISH KAKKAR .(2020A2PS1754P)

Student Write-up

PS-II Project Title: Database creation and management

Short Summary of work done during PS-II : The first project involves developing an advanced Slack script for real-time alerts and messages enriched with data visualizations, customized for each client to streamline continuous monitoring and fortify client partnerships. Simultaneously, the second project focuses on strengthening data management for the Performance Management System (PMS) by implementing a new database and dynamic data pipeline. This includes creating a robust database structure with staging tables and stored procedures to ensure data integrity during periodic data loading, prioritizing simplicity for adaptability to evolving organizational needs. Together, these initiatives aim to improve efficiency and fortify client partnerships while ensuring the integrity of the Performance Management System.

Tool used (Development tools - H/w, S/w) : Python, SQL, Metabase, Grafana, Slack

Objectives of the project : Setup a new database from scratch

Major Learning Outcomes : Learned skills like Python, SQL, DBMS, Data Analytics, Stakeholder Management

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : It is a great place to work, the employees are very friendly and the work culture is great as well. There are no specific in and out timings, the office hours are flexible and they also have the option for remote work depending on the team and project. The company allows the intern to work on multiple projects and promotes ownership of the same. Overall a great company to work for.

Academic courses relevant to the project : Computer Programming, Machine Learning, Data structures and Algorithms

PS-II Station : Qure.ai Technologies Pvt. Ltd. - Marketing , Mumbai

Faculty

Name: Swarna Chaudhary

Student

Name: ARYAMAN BRIJESH SHAH .(2020A1PS1323P)

Student Write-up

PS-II Project Title: Competitive Analysis of CAD4TB and Lunit in AI-Powered Diagnostics, AI-Driven Climate Resilience in Healthcare: Navigating the Path to a Greener Future

Short Summary of work done during PS-II : During my PS-II at Qure.AI, I undertook two significant projects that encompassed diverse dimensions of healthcare technology and global health challenges. The primary endeavor involved an in-depth evaluation and comparison of CAD4TB and Lunit, both prominent healthcare technology solutions and direct competitors to Qure.AI. This comprehensive analysis delved into their respective performances, features, market presence, and potential contributions to addressing tuberculosis (TB) diagnosis and associated medical complexities. The second project embarked on outlining the critical challenges imposed by climate change on global healthcare systems. In response to these challenges, I proposed the

utilization of artificial intelligence (AI) as a transformative solution. The concept note crafted during this initiative aimed to meticulously define the scope and urgency of the intricate climate-healthcare nexus. It underscored the imperative for innovative AI-driven strategies capable of augmenting climate resilience in healthcare delivery, as well as facilitating adaptation and mitigation efforts. Both projects not only enriched my understanding of cutting-edge healthcare technologies and global health concerns but also empowered me to actively contribute to the discourse surrounding these vital areas.

Tool used (Development tools - H/w, S/w) : MS Excel, Hubspot, Klenty, Strapi

Objectives of the project : The first project involves a comprehensive evaluation of CAD4TB and Lunit, prominent healthcare technologies competing with Qure.AI. The assessment considers their performance, features, market impact, and suitability for addressing tuberculosis (TB) diagnosis and associated medical issues. The second project addresses the significant challenges posed by climate change to global healthcare systems. It proposes the application of artificial intelligence (AI) as a transformative solution, emphasizing the urgency and scope of the climate-healthcare relationship. The concept note underscores the necessity for innovative AI-driven strategies to bolster climate resilience in healthcare, covering delivery, adaptation, and mitigation efforts.

Major Learning Outcomes :

The major learning outcomes from the projects encompass a comprehensive understanding of leading healthcare technology solutions, particularly CAD4TB and Lunit, through an in-depth assessment of their performance, features, market presence, and potential

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Qure.AI fosters a friendly and supportive workplace culture, emphasizing the celebration of festivals with grandeur. The company offers flexible working hours, and while occasional workload pressure may arise, it is generally manageable.

Academic courses relevant to the project : None

Name: ANIKET CHOWDA(2020A2PS1344P)

Student Write-up

PS-II Project Title: LinkedIn Ads & Google SEO/SEM Activities

Short Summary of work done during PS-II : This is list of the major work I did during my PS: Emergency use cases of AI in UK market • Competitive analysis of qLC suite product of qure in UK and US market • Newsletter creation and analytics, lead generation • Designed and executed a LinkedIn ads campaign reducing Customer Acquisition Cost for generating awareness and quality leads. • Boosted SEO score by strategic partnership with an AI powered SEO optimization tool driving developer and content initiatives ultimately developing an optimised google ads strategy for targeted advertisements to healthcare professionals.

Tool used (Development tools - H/w, S/w) : HubSpot, Asana, Powerpoint, Excel, Word, Teams, Slack, Pipedrive, Cleverstory, Google Analytics, LinkedIn Sales Navigator,

Objectives of the project : Optimize company's LinkedIn profile • Working on new use cases of Generative AI and NLP in healthcare • Funder mapping sheet- Reach outs • Intermediary organisations -Finding POCs and reachout • Targeted ads (LinkedIn & Google ads) • Google Search engine optimization (SEO)

Major Learning Outcomes : • Soft skills like corporate communication - collaboration skills, feedback and input, presentation skills, active listening
• Leadership, teamwork, punctuality, time management, etc.
• Through all the initiatives I took, along with constant learning envi

Details of Papers/patents : Not Applicable

Brief Description of working environment, expectations from the company : The work atmosphere at this company is excellent, characterized by a high level of cooperation among team members. Remote work is permitted, and timelines are communicated well in advance to avoid last-minute rushes. Interactions with other teams are seamless, and there is an open environment for proposing and implementing new ideas. Additionally, employees have the chance to contribute to significant projects.

Academic courses relevant to the project : Not Applicable

PS-II Station : Qure.ai Technologies Pvt. Ltd. - Product Management , Mumbai

Faculty

Name: Swarna Chaudhary

Student

Name: VAIDYA ANEESH ABHAY(2020A4PS2266H)

Student Write-up

PS-II Project Title: Product Management Intern - AI Adoption in Healthcare

Short Summary of work done during PS-II : The work involved enhancing Key Opinion Leader (KOL) outreach by iteratively refining and personalizing email communication. This adaptive approach aimed to strengthen the network of influencers by maximizing engagement and response rates. Collaboratively with the sales team, a comprehensive pricing document was developed to determine the upcoming year's pricing strategy. This strategy aligns with market dynamics, providing a competitive edge and contributing to the broader goal of delivering value and affordability. Additionally after diligent evaluation of factors I identified top global regions for strategic market expansion. This involved assessing market demand, regulatory considerations,

and potential partners, emphasizing a strategic rather than impulsive approach. Recognizing the importance of data in refining AI models, I led an initiative to collect scans from hospital sites and diagnostic centers, focusing on quality and relevance. Significant progress has been made in healthcare AI research projects, exploring emerging technologies and showcasing practical applications to keep the product at the forefront of innovation. A comprehensive product strategy for the qXR Pharma project was successfully developed, addressing user needs, product limitations, and aligning with medical expert recommendations. Pursuing necessary regulatory clearances, this strategic development positioned the product as a transformative force in the pharmaceutical sector, aiming to significantly enhance patient care and diagnosis.

Tool used (Development tools - H/w, S/w) : Qure product suite, Microsoft suite

Objectives of the project : 1. Building Seamless AI Integration Environment in Hospital Settings. 2. 2. Conducting In-depth Market Research on Health-tech Competitors 3. 3. Gathering Insights for Data-Driven Decision-Making and Continuous Improvement 4. 4. Evaluating Healthcare AI Integration Success through Adoption and KPIs 5. 5. Leveraging Key Opinion Leaders (KOLs) in the Healthcare Industry 6. 6. Cultivating Interdisciplinary Collaboration for Successful Healthcare AI Integration

Major Learning Outcomes : 1. Learning to refine and personalize email communication for Key Opinion Leaders. 2. Collaborative work with the sales team to create a comprehensive pricing document. 3. Evaluation of factors for identifying top global regions for market expansion. Cons

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working environment

1. Only few days WFO required 2. Flexible work hoursF 3. Travel opportunities depending on the team assigned 4. Easily manageable workload during most part of the internship 5. Office celebration and parties from time-to-time 6. Helpful and cooperative atmosphere

Expectations:

1. Meeting deadlines. 2. Working on ambiguous problems 3. Learning at a fast paced rate 4. Team work and flexibility 5. Face to face interaction with clients

Academic courses relevant to the project : None relevant enough to be mentioned

PS-II Station : Rembrand Inc. , California

Faculty

Name: Vineet Kumar Garg

Student

Name: BHAVYA SHARMA .(2019B2A31051P)

Student Write-up

PS-II Project Title: Prediction Model

Short Summary of work done during PS-II : Made a prediction model which predicts the number of views for any youtube video based on RANSAC approach and also made an API to access the model and made a chrome extension to receive and send data for marketing team into the database from a website on chrome

Tool used (Development tools - H/w, S/w) : VS Code , POSTMAN , Prisma , Python , DBeaver , Python , Typescript

Objectives of the project : Building a machine learning model to predict views for a particular video after a certain number of days

Major Learning Outcomes : Python , Different Training techniques , Different Softwares and Typescript

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : A very healthy working environment also flexible working hours, Every member of the team is very supportive and very helpful and brings cheerful environment.

Academic courses relevant to the project : Programming in C , Object Oriented Programming

PS-II Station : Remedo Clinitech Pvt. Ltd. , Noida

Faculty

Name: Jyotsana Grover

Student

Name: MANAV JARAL .(2020A2PS1760P)

Student Write-up

PS-II Project Title: Backend API'S for US-Chatbot System

Short Summary of work done during PS-II : During my tenure, I played a pivotal role in developing backend APIs for a sophisticated chatbot system tailored specifically for U.S. doctors. The primary focus of my work involved designing and implementing APIs that seamlessly processed and managed JSON input from users. This functionality was integral to the chatbot's ability to comprehend and respond effectively to diverse queries from medical professionals. One of the key aspects of my contribution was the implementation of POST APIs, enabling the system to efficiently store and handle JSON input. This involved creating robust mechanisms for data storage, ensuring the secure and organized handling of user-generated content. The goal was to facilitate a smooth and responsive interaction between the doctors and the chatbot. Additionally, I took charge of developing a GET API designed to retrieve data from the database in a recursive manner.

Tool used (Development tools - H/w, S/w) : NODEJS , Express , MYSQL , Postman

Objectives of the project : Making a backend api to store and handle JSON-Input from the user , format it and store in the database , GET API to retrieve the data using recursion and display the response to the user

Major Learning Outcomes : Backend Development

Details of Papers/patents : -

Brief Description of working environment, expectations from the company :

During my internship at Remedo, I was fortunate to experience a remarkably positive and supportive working environment. From day one, it was evident that the company placed a high value on fostering a culture that encourages learning, collaboration, and personal development. The atmosphere at Remedo was conducive to growth, with mentors and colleagues actively engaging with interns. Regular check-ins and mentorship sessions were integral, providing me with valuable guidance, constructive feedback, and ample opportunities to enhance my skills. The open communication channels allowed me to comfortably seek assistance and ask questions, creating an environment where learning was a continuous and encouraged process.

Academic courses relevant to the project : Backend Development , Software Development Courses

Name: RAJARSHI MISRA .(2020A8PS1822P)

Student Write-up

PS-II Project Title: Fullstack Development

Short Summary of work done during PS-II : I did not work on a single project, but it involved multiple projects. My work included building React components that would be used in no-code

tools. Also, it involved creating React components for bit.cloud. Further, I also worked on pipelines to reduce development time.

Tool used (Development tools - H/w, S/w) : 1. NextJS, ReactJS, bit.cloud, JavaScript, MERN

Objectives of the project : To build components for their website and improve their development efficiency

Major Learning Outcomes : 1. Scaling development
2. Building no-code tools for users

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The environment was really good. Although, I got work from home, but the seniors in my company were available for meets to help me if I was stuck anywhere. Overall, it was a great environment to learn.

Academic courses relevant to the project : Object Oriented Programming, Computer Programming

PS-II Station : Rite Infotech Pvt Ltd , Faridabad

Faculty

Name: Jyotsana Grover

Student

Name: BAREDDY KIRAN KUMAR REDDY .(2020A1PS1503P)

Student Write-up

PS-II Project Title: RUBIC

Short Summary of work done during PS-II : During my PS-II, I undertook a significant project focused on developing a multi-page web application using React.js, JavaScript, HTML, and CSS. The primary objective was to create a robust and user-friendly platform named Rubic Obfuscate. The application featured three main pages—Rubic Obfuscate, Menu2, and Menu3. The Rubic Obfuscate page became the focal point of the project. It involved the creation of two essential buttons, "Upload Files" and "Obfuscate Files," strategically placed on the top right of the page. Clicking the "Upload Files" button initiated a function that opened a new window to the file manager, allowing users to selectively upload DLL files. The "Obfuscate Files" button facilitated the obfuscation of selected files, incorporating logic to process files whether they were checked or not. The Rubic Obfuscate page also hosted a dynamic table displaying relevant file information, including name, date modified, and obfuscation status. The table featured checkboxes for users to conveniently select files for obfuscation. Throughout the project, I delved into various technologies and tools such as React.js for efficient component-based development, React Router for seamless page navigation, and CSS for creating a visually appealing and responsive design. The process also involved comprehensive testing to ensure smooth functionality, optimization for performance with large datasets, and considerations for accessibility. In addition to technical skills, the project provided invaluable insights into collaborative teamwork, documentation practices, and the satisfaction of celebrating successful project completion with the development team. Overall, the PS-II experience significantly enhanced my proficiency in web development and provided a comprehensive understanding of modern tools and practices.

Tool used (Development tools - H/w, S/w) : Software: React.js, Javascript, HTML, CSS
Hardware: Standard Development Machines, Web Browser DevTools

Objectives of the project : Develop a Multi-Page React Web Application
Implement File Management Functionality
Facilitate File Obfuscation
Create an Interactive Table
Ensure a Responsive and Visually Appealing Design
Integrate Navigation Between Pages
Optimize Performance for Large Datasets
Document the Codebase
Conduct Thorough Testing
Verify Accessibility
Celebrate Project Completion

Major Learning Outcomes : React.js Component-Based Development

State Management in React
Handling User Interactions in React
Integration with File Manager Functionality
Table Implementation in React
Checkbox Functionality in React
Scrollable Table Optimization
Responsive Design Pr

Details of Papers/patents : nothing

Brief Description of working environment, expectations from the company : The working environment I seek is one that fosters collaboration, innovation, and continual learning. I thrive in dynamic settings where creativity is encouraged, and cross-functional teamwork is valued. I am eager to contribute to a company that embraces diversity and inclusivity, recognizing the strength that diverse perspectives bring to problem-solving and decision-making.

In terms of expectations, I look forward to joining a company that prioritizes employee growth and development. I seek an environment where my skills can be honed and expanded through challenging projects, mentorship programs, and opportunities for professional advancement. A company that values work-life balance is also crucial to me, as it ensures sustainable productivity and employee well-being.

Moreover, I am enthusiastic about contributing to projects that align with cutting-edge technologies and industry best practices. An organization that values innovation and encourages employees to stay updated on emerging trends in technology would be an ideal fit. Open communication channels and a supportive management team are also essential for fostering a positive and collaborative work culture.

Ultimately, I am eager to bring my skills and dedication to a company that values its employees, promotes a culture of continuous improvement, and provides a platform for meaningful contributions to the field of technology.

Academic courses relevant to the project : Web Development with React.js

JavaScript Programming
Frontend Development Technologies
User Interface (UI) Design
Software Engineering Principles

Data Structures and Algorithms
Responsive Web Design
Web Application Security
Database Management Systems

PS-II Station : Rite Water Solutions (I) Pvt. Ltd. , Nagpur

Faculty

Name: Benu Madhab Gedam

Student

Name: MANDADAPU SAPTARSHI S S SHARMA .(2020ABPS1839P)

Student Write-up

PS-II Project Title: Amritgram- India's first 5G IoT enabled Smart Village

Short Summary of work done during PS-II : A six-month long internship as a Project Management Trainee at Rite Water Solutions, a leading large-scale water solutions provider in India. With the company currently planning to expand itself into Agriculture and Large-Scale IoT solutions, I played a crucial role alongside my peers and managers, in the development of Amrit Gram, India's first 5G IoT enabled smart village, Bhugaon(Maharashtra).The crux of the project is Large-scale IoT deployment alongside provisions pertaining to domains such as Agriculture, Dairy, Healthcare, Education etc. The project aims at providing a positive impact for around 1350 families residing in the village .Under the aegis of my project manager, I was responsible for installation of a Solar Cold Storage, with a capacity of 5 MT, alongside a Bulk Milk Chiller, with a capacity of 1000 liters, as well as a fully equipped Digital PHC among several others.involved in

training his colleagues and employees belonging to the company's factories on how to make use of Inventory Management modules in the newly integrated ERP.

Tool used (Development tools - H/w, S/w) : MS Excel, Power BI, Google Looker Studio, Odoo ERP

Objectives of the project : Large Scale IoT deployment, Handling interventions pertaining to Agriculture, Dairy, Healthcare, Education, Energy etc., Installation and management of Large-scale equipment

Major Learning Outcomes : Project Management, Intermediate Skills in Microsoft Azure, MS Excel, Power BI etc.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : A decent working environment, with six working days per week, and fine management. Downsides of not enough relevant exposure to real life and considerable projects that aid students during placements, that assist in improving employability later.

Academic courses relevant to the project : Operations Management, Supply Chain courses, Finance courses.

PS-II Station : Rivigo Non Tech , Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: NAVYA GUPTA .(2020A1PS0727P)

Student Write-up

PS-II Project Title: 1. TAT mapping 2. SCM optimization 3. OU mapping

Short Summary of work done during PS-II : During my internship at Rivigo, I undertook three significant projects that delved into the optimization and efficiency of the company's supply chain. The first project involved modeling Rivigo's entire supply chain, employing logic to calculate turn-around times (TAT) between different locations. This intricate process required a comprehensive understanding of the supply chain, utilization of the MAPPLS API to calculate distances between branches, and the formulation of logic to convert these distances into final TAT. The second project aimed at reducing TAT by identifying and streamlining supply chain inefficiencies, ultimately eliminating gaps and delays. Additionally, the third project focused on mapping pin codes across PAN India to their nearest branches, utilizing the K-nearest neighbors (KNN) algorithm. Throughout these projects, I employed various software tools such as MS-Excel for data manipulation, Docker for containerization, and Jupyter Notebook for collaborative coding and analysis. The technical skills utilized encompassed Python for scripting, SQL for database management, and interfacing with APIs for data retrieval.

Tool used (Development tools - H/w, S/w) : MS-Excel, Docker, Jupyter Notebook, Python, SQL, MAPPLS API

Objectives of the project : 1. Modelling Rivigo's entire supply chain into a logic to determine Turn-Around-Time from one location to another. 2. Reducing TAT by streamlining supply chain or eliminating supply chain gaps/delays. 3. Mapping pin codes (PAN India) according to the branch nearest to them.

Major Learning Outcomes : 1. How to write SQL queries to fetch data.
2. How to clean and analyze data on MS-Excel.
3. How to hit APIs.
4. How to use knn algorithm for clustering points using Python.
5. How a consignment moves through various stages from pickup to delivery.
6. How

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Rivigo has a friendly and collaborative environment. The warmth and approachability of the employees created a workplace culture that felt more like a close-knit community. The unique aspect of my experience was the exposure to various departments, including tech, IT, finance, product, sales and marketing, HR, customer experience, operations, and supply chain planning. This holistic approach to learning allowed me to witness firsthand the intricate web of interactions that sustain a flourishing corporate ecosystem. The higher-ups actively encouraged exploration beyond my designated role, fostering an environment where curiosity and learning were celebrated. This internship also refined my definition of professionalism in the corporate world. The experience refined my technical skills and instilled in me a profound appreciation for the importance of teamwork and effective communication in achieving collective goals.

Academic courses relevant to the project : Supply Chain Management

Name: SWASTIK RANJAN(2020A4PS0990H)

Student Write-up

PS-II Project Title: Business Intelligence and Operations Management

Short Summary of work done during PS-II : In the realm of my professional tenure, the daily grind manifested as a rather lackluster affair. The tasks assigned to me appeared rather pedestrian, akin to endeavors one might effortlessly tackle during their college years. Despite my proficiency in Python and SQL, these capabilities languished in relative obscurity, overshadowed by the prevailing humdrum ambiance of the workplace. The conspicuous absence of cultural initiatives, coupled with a notable dearth of interpersonal engagement, contributed to a dispiriting environment, further underscored by a concerning surge in employee turnover. The workplace, bereft of vibrancy and communal spirit, evolved into a breeding ground for discontent

Tool used (Development tools - H/w, S/w) : S/w - Python,

Objectives of the project : Automating daily first mile and last mile reports and removing the disparities between them and payout report

Major Learning Outcomes : None

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : In the realm of my professional tenure, the daily grind manifested as a rather lackluster affair. The tasks assigned to me appeared rather pedestrian, akin to endeavors one might effortlessly tackle during their college years. Despite my proficiency in Python and SQL, these capabilities languished in relative obscurity, overshadowed by the prevailing humdrum ambiance of the workplace.

The conspicuous absence of cultural initiatives, coupled with a notable dearth of interpersonal engagement, contributed to a dispiriting environment, further underscored by a concerning surge in employee turnover. The workplace, bereft of vibrancy and communal spirit, evolved into a breeding ground for discontent.

Within this backdrop, the rhythmic keystrokes of Python and the structured queries of SQL emerged as my solace. However, their brilliance remained obscured within the shadows of unrecognized potential. In this narrative of professional stagnation, the binary code of untapped capabilities persisted as a poignant symbol of unexplored opportunities.

Academic courses relevant to the project : Optimization to an extent

Name: NEEV SIKKA(2020AAPS1423G)

Student Write-up

PS-II Project Title: Supply Chain Network Optimization

Short Summary of work done during PS-II : First we collect the Coordinates of the 19240 Pincodes using data from the site geoname.org • Then we collect the coordinates of each of 240 OUs using data from our rivigo-zoom adminor database. • Then we write a python script to map each of these 19240 coordinates to the nearest of these 240 OUs by road. • In order to save computation time and search optimally among these 19240x240 combinations,each of these Pincode coordinates is mapped to nearest cluster of OUs. • For example the Pincode 122017,i.e. Palam Vihar(Gurugram) would be mapped to GGN,DELT2,DELTBG etc and among them only the minimum would be found

Tool used (Development tools - H/w, S/w) : Python,SQL,Excel

Objectives of the project : Project aims to Cut down on longer routes travelled while servicing customers from the nearest warehouse can be achieved by taking the road distance as a metric instead of cartesian distances. The vehicle that starts from the warehouse shall travel the nearest distance by road while servicing a particular pincode.

Major Learning Outcomes : 1)Learnt about Supply Chain Networks and optimisation algorithms.
2)While doing the project,I also learnt about Machine Learning Pipeline building.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : 1)We are expected to report everyday to office
2)Employees at all levels are happy to brainstorm and discuss problems.
3)Strict deadlines are expected to be met

Academic courses relevant to the project : Foundations of Data Science,DSA

PS-II Station : Rusk Media - Engineering , New Delhi

Faculty

Name: Pravin Yashwant Pawar

Student

Name: AKSHIT ADITYA(2020A1PS2509H)

Student Write-up

PS-II Project Title: Admin Panel Addition and Upgradation

Short Summary of work done during PS-II : Worked here on the Admin Panel, adding two new sections namely "Monetisation" and "Lobby Programming". Monetisation further had four subsections namely ads , brands, campaigns and adslotmapping. We were given a task for making these additions to the existing DevOps website of the company which will be used by the non-tech people for keeping an account of the following information mentioned ahead. This would streamline the functioning of the organisation and bring about an increase in efficiency. I was handling the frontend of the website. React was used for designing the website.

Tool used (Development tools - H/w, S/w) : React, VS Code, Documentation, lots of react libraries, material UI Table, postman, swagger, debeaver, figma, jenkins, ci/cd pipeline, aws, gcp

Objectives of the project : Adding "Monetisation" and "Lobby Programming" sections to the Admin Panel

Major Learning Outcomes : Helped in learning and using react

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : It's basically a startup. While my tenure over here , this company was suffering from a shortage of funds and hence, there was a lot of delay faced by the firm over the crediting of stipend for more than half the term of the ps. There was always a cloud of uncertainty looming as when the stipend will be

credited and mostly it was after 15th or 21st of the month. The work environment was mostly lite until there was any deadline.PPO chances are less.

Academic courses relevant to the project : oops

Name: JHA ABHINAV ANAND(2020A8PS1502G)

Student Write-up

PS-II Project Title: Android Development

Short Summary of work done during PS-II : Enhanced the leaderboard with paginated lists of players, utilizing REST API (OkHttp, Retrofit) for seamless data retrieval and display. Worked with Firebase SDKs for real-time data updates, ensuring an engaging user experience. Implemented Dagger 2 and Dagger Hilt for efficient Dependency Injection, enhancing code modularity and maintainability. Utilized Kotlin Coroutines and Flow for asynchronous programming, improving app responsiveness and performance. Designed and implemented UI features using Data Binding and Jetpack Compose, ensuring a modern and user-friendly interfac

Tool used (Development tools - H/w, S/w) : Android Studio, Git, GitHub, Jira

Objectives of the project : Add new features and improve existing features in the app

Major Learning Outcomes : AGILE Work flow, working in a team, Got opportunity to work with live production app.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment was supportive and happening. Got proper oppertunity to interact with every employee of engineering team.

Academic courses relevant to the project : OOPS

Name: TANMAY KHANDELWAL(2020A8PS1507G)

Student Write-up

PS-II Project Title: Admin Panel Website for Rumble App

Short Summary of work done during PS-II : My work was to make the API's for the Admin Panel. It included all the CRUD features i.e GET, POST, PUT and DELETE api's. It also extensively included the use of My SQL. For the version control i used Git. Git played a very important role in my progression and the continuity of work. For testing we used Swagger as the API and response tester. IDE used was IntelliJ which provided ease of use and accessibility.

Tool used (Development tools - H/w, S/w) : IntelliJ, Spring Boot, Git, Postman, Jira, MacBook Air, A Testing device.

Objectives of the project : To make the the admin panel website for the Product Managers of the company. It will handle the data of the app. All the changes in the database can be done through this website.

Major Learning Outcomes : making API's, code in Java, Debugging efficiently, run API's, integration of the frontend with the backend, clean coding.

Details of Papers/patents : None.

Brief Description of working environment, expectations from the company : Working environment is quite happening. It's not a very big office space, so everyone is somehow occupied in there own work. the average age of the office is under 30 so I with my colleagues got along really well with the employees and other Interns. Its a startup so expect weekly updates in the App. For that they would arrange weekly targets for it. Mostly the assigned work was stretched by 3-4 days. In my time they were hiring a lot of interns in different departments but for the tech

dept we were the only ones and some contract based. They recently got their 3-4th funding. They plan on to expand their app "Rumble" more.

Academic courses relevant to the project : OOPS, DSA, Computer Programming

PS-II Station : Sagility , Bengaluru

Faculty

Name: Manoj Subhash Kakade

Student

Name: CHAPPA SRIGOWTHAM(2020A3PS0623H)

Student Write-up

PS-II Project Title: Automation of Medical claims on metavance software

Short Summary of work done during PS-II : Wrote a python script using external libraries such as pyautogui to automate several tasks required for client aiming to reduce human errors and making it more time efficient

Tool used (Development tools - H/w, S/w) : Python, visual studio code

Objectives of the project : Automation of storing screenshots of several claims' service lines, claim header, service window and other requirements.

Major Learning Outcomes : Open source automation using python.

Details of Papers/patents : No papers/patents

Brief Description of working environment, expectations from the company : Working environment is very nice. Everyone is helpful and always give good advice.

Academic courses relevant to the project : Introduction to python, data structures and algorithms

Name: YENDLURI SRIJAN(2020AAPS1326H)

Student Write-up

PS-II Project Title: Aqp quality audit

Short Summary of work done during PS-II : Automating Aqp quality audit forms using gpt

Tool used (Development tools - H/w, S/w) : Gpt 3.5 turbo, react js, python, azure open ai

Objectives of the project : To analyse and automate Aqp audit forms

Major Learning Outcomes : LIm

Gpt

React

Details of Papers/patents : No papers published

Brief Description of working environment, expectations from the company : Very professional and friendly work environment
Everyone is welcoming and helps around a lot

Academic courses relevant to the project : Oops
Fdsa

PS-II Station : Sagility , Hyderabad

Faculty

Name: Manoj Subhash Kakade

Student

Name: ANISH REDDY KOMMAREDDY(2020A3PS1352H)

Student Write-up

PS-II Project Title: Data analytics using Power Bi- Esat Report, Cohere quality intake, Employee Cost analysis

Short Summary of work done during PS-II : Performing data analysis and creating report in Power Bi

Tool used (Development tools - H/w, S/w) : Power Bi, SQL, Excel

Objectives of the project : Performing data analysis and creating report in Power Bi on Esat Report, Cohere quality intake, Employee Cost analysis

Major Learning Outcomes : Data analysis, Power Bi, Microsoft Azure

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Its a good and kind of chill working environment where you have to work for around 8 hours a day, the manager also gives you work that you are interested in

Academic courses relevant to the project : CP

PS-II Station : Saras Analytics - Nontech , Hyderabad

Faculty

Name: Arindam Roy

Student

Name: UPPALA KEERTHANA(2019B4A20835H)

Student Write-up

PS-II Project Title: Business Analysis for Live Auctioneers

Short Summary of work done during PS-II : During my internship at Saras Analytics, I collaborated closely with Live Auctioneers Client, a leading marketplace in the auction industry. I contributed significantly to the development of customized dashboards using Holistics, tailored to meet the client's analytical and reporting requirements. Additionally, I played a key role in setting up integrations using Daton for seamless data access and accuracy. Engaging in client meetings enhanced my understanding of aligning analytical solutions with business objectives and translating insights into actionable recommendations. Moreover, I gained hands-on experience with UI PATH, augmenting my skills in Robotic Process Automation, which is increasingly valuable in today's business landscape.

Tool used (Development tools - H/w, S/w) : Holistics, Mysql,Dbeaver,Datagrip,Snowflake,Sql

Objectives of the project : To help the clients to boost their business through reports and consulting

Major Learning Outcomes : SQL , Dashboard building , E-commerce Business , Holistics , Snowflake

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The company culture values approachability, encouraging open communication and collaboration among team members. It's important to keep up with what's happening in the company and the industry around us. Some days might be busy based on work. But to do well here, one has to be ready to adapt, stay strong when things get tough, and always be ready to take on challenges with a positive attitude.

Academic courses relevant to the project : Business Analysis and Valuation

Name: BANDARU BHAVANI SHANKAR .(2019B5AB0588P)

Student Write-up

PS-II Project Title: Daton Insights dashboards.

Short Summary of work done during PS-II : I started with orientation session and was given an overview of company and what it does. The first project we focused on is competitor analysis and analyzed about them. Then we used those insights to design the dashboards of Daton insights. We included many dashboards with all possible flexibilities and features. We built those dashboards and gave an attractive UI given by UI team. We built those dashboards using Cumul as BI tool and DBT to create SQL models to insert data.

Tool used (Development tools - H/w, S/w) : DBT, Cumul, Power BI, Big Query, Click Up, SQL, Excel, etc.

Objectives of the project : To make the well designed analytics of data available for any e-commerce platform and agencies.

Major Learning Outcomes : Learned to use BQ, Cumul, Power BI, SQL, Collaborating with team members etc.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work culture is very good and people are supportive and helping. I enjoyed the work and time in Saras.

Academic courses relevant to the project : DBMS, SQL, Power BI, Report writing, etc.

Name: NIVID H KHER(2020A1PS2009G)

Student Write-up

PS-II Project Title: Data Engineering

Short Summary of work done during PS-II : Created logical codes according to clients' requirement, debugged the existing codes, data validations of various clients, upgrading the codes of the data

Tool used (Development tools - H/w, S/w) : Sql, dbt, excel, vs code

Objectives of the project : To create, upgrade and maintain the codes of different layers of data

Major Learning Outcomes : Application of knowledge and skills, improvement in soft skills, enhanced leadership skills

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Overall experience was good, team were approachable and helpful, my mentor and manager both were reachable in times of need and helped a lot throughout my internship to learn new skills and improve existing one, other employees are also good, friendly and approachable for any help needed. Overall the work environment is quite good, better than what i had expected.

Academic courses relevant to the project : -

Name: JOE CLIFTON PAYAPPILLY .(2020ABPS1860P)

Student Write-up

PS-II Project Title: Data Engineering

Short Summary of work done during PS-II : Work culture at Saras was great and got to learn a lot. Most of the work done was on SQL, Excel and dbt.

Tool used (Development tools - H/w, S/w) : SQL, MS Excel, dbt, Snowflake, BigQuery

Objectives of the project : Data Analytics and Engineering

Major Learning Outcomes : Data Analytics

Details of Papers/patents : No papers/patents as such

Brief Description of working environment, expectations from the company : Great work environment

Academic courses relevant to the project : Data Analytics courses

PS-II Station : Schlumberger , Pune

Faculty

Name: Chetana Anoop Gavankar g

Student

Name: ANUMEGHA DE .(2020A3PS1221P)

Student Write-up

PS-II Project Title: Component Data Management

Short Summary of work done during PS-II : I worked on 2 projects during PS-II. 1. I found the preferred (most qualified) alternative electrical components to replace forbidden components so as to increase the PPL score. This was done through reading and comparing datasheets, circuit analysis, and running simulations on TINA and LTSpice. 2. I worked on preparing a Power App that was connected to a Power BI dashboard. This app would ease the procurement of PPL Buffer Stock.

Tool used (Development tools - H/w, S/w) : LTSpice, TINA, OrCAD, PowerApps, Power Automate

Objectives of the project : Project-1: To suggest already qualified alternative components to components that have been rendered forbidden or obsolete. 2. To create a Power App for Preferred part buffer stock management

Major Learning Outcomes : Circuit analysis, working on Power Platform

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Great working environment. Fridays are wfh for everyone. I was treated as an FTE rather than an intern and this helped me get an idea of how corporate life really is.

Academic courses relevant to the project : Analog Electronics, ADVD, Micro Electronics

PS-II Station : SENSEI TECHNOLOGIES PVT LTD , Bengaluru

Faculty

Name: Febin A Vahab

Student

Name: CHINMAYEE SOMESHWAR SELUKAR(2020A8PS0735H)

Student Write-up

PS-II Project Title: TREASURY MANAGEMENT SYSTEM & ASSET DEPRECIATION TRACKING

Short Summary of work done during PS-II : The first project, the encore ALM, pre-midterm database design, and API coding for CRUD operations and essential functionalities, were completed. Rigorous testing has been conducted on all APIs, and initial client-side functionalities have been developed. Post-midterm, the focus shifted to enhancing financial operations, including seamless securitization transactions, cash flow prediction, daily disbursement reports, and integration with other Loan Management Systems. In the second project, an Asset Management module was added to the Encore LMS, overseeing asset depreciation, tracking values, documenting repairs, and promoting informed decision-making for strategic asset management aligned with compliance standards, ensuring financial transparency and regulatory adherence.

Tool used (Development tools - H/w, S/w) : IntelliJ Idea, Postman, MySQL Workbench, VSCode, Git

Objectives of the project : These projects intend to add a module to Encore for Asset Depreciation Tracking and develop the Encore Asset and Liability Management (ALM) /Treasury Management System. Encore already has the basic ALM foundation in place; this software will

be developed to support Encore. Encore will get a new asset depreciation monitoring module incorporating all the depreciation techniques. The first project is aimed at expanding the ALM's functionality. Its scope was initially restricted to the ALM; later versions will include aspects of asset securitization transactions.

Major Learning Outcomes : Throughout my internship, I attained major learning outcomes by successfully completing the initial database design and API coding for CRUD operations in the Encore ALM project. Rigorous testing and the development of client-side functionalities marked cr

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : In my PS2, my mentor provided strong support and encouragement. Communication is open, feedback is constructive, and there's a collaborative spirit. I felt empowered to take initiative, and my contributions were recognized. The culture promotes continuous learning, and there's a genuine concern for my well-being. Work-life balance is respected, creating a positive and productive atmosphere.

Academic courses relevant to the project : Object Oriented Programming, Data Structures and algorithms.

PS-II Station : SG Analytics , Pune

Faculty

Name: Gaurav Nagpal

Student

Name: URVASHI SHARMA .(2020A7PS0017P)

Student Write-up

PS-II Project Title: Exploring Advanced Analytics: From AI-driven PDF Chatbot Development to Problem-Solving in Data Science

Short Summary of work done during PS-II : During my PS-II at SG Analytics, I advanced my data science proficiency in PySpark, Pandas, SQL, and Python, focusing on practical problem-solving. Notably, I created proof-of-concepts with OpenAI, developing a PDF chatbot. Exploring web scraping techniques broadened my data collection skills. Emphasizing meticulous documentation ensured transparent communication within the team. In essence, my internship encapsulated a diverse learning experience

Tool used (Development tools - H/w, S/w) : Langchain, OpenAI, Selenium, Bs4, Databrick, jupyter notebook.

Objectives of the project : Executed diverse data science projects, including a PDF chatbot, graph analysis research, and problem-solving with PySpark, Pandas, SQL, and Python, collaborating with mentor Suman and the team while exploring web scraping techniques and ensuring meticulous documentation.

Major Learning Outcomes : During my internship at SG Analytics, I honed practical data science skills using PySpark, Pandas, SQL, and Python, focusing on real-world problem-solving. I successfully developed proof-of-concepts using OpenAI, showcasing my ability to apply artificial

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment at SG Analytics was dynamic and collaborative. Expectations included leveraging data science skills for effective problem-solving, contributing to team projects, and maintaining transparent communication. While I appreciate my time at the company, I believe there was potential for more substantial learning opportunities. I felt that the scope for professional growth could have been more extensive during my tenure.

Academic courses relevant to the project : DBMS, Fods

Name: SAFDAR FAISAL .(2020A7PS0095P)

Student Write-up

PS-II Project Title: Data Engineering and Visualiza

Short Summary of work done during PS-II : We worked with Generative LLMs like those of meta, openAI and attempted creating our own pipelines which utilises these models. Also worked on market and investment research

Tool used (Development tools - H/w, S/w) : Software - Docker, Postgres,

Objectives of the project : Data Analysis and Generative LLMs

Major Learning Outcomes : Increased proficiency in SQL and Postgres, Docker, OpenAI, Python.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : It was highly lively and enjoyable. Events were held consistently. Work was also enjoyable when provided

Academic courses relevant to the project : Database Management Systems, Machine Learning, Deep Learning

Name: SURYANSH SINGHAI(2020A7PS0127G)

Student Write-up

PS-II Project Title: Generative AI Project

Short Summary of work done during PS-II : Worked on different projects based on Generative AI use cases. Integrated Langchain and OpenAI API to make chatbots to facilitate user queries to be answered by AI. Utilized SQLite to connect SQL databases with chatbot to get responses to the Database related queries in standard language. Constructed an interactive UI using Streamlit and Chainlit python libraries for the chatbots. Made use of Selenium and BeautifulSoup python libraries to scrape data from the internet.

Tool used (Development tools - H/w, S/w) : OpenAI, SQL, Python - Langchain, Streamlit, Chainlit, Selenium, BeautifulSoup, Pandas.

Objectives of the project : To work on applications of Generative AI to build Chatbots.

Major Learning Outcomes : Through the utilization of LLMs like ChatGPT, we have unlocked the power of advanced language understanding and generation. This integration has enabled us to develop conversational agents and text-generation applications, opening doors to the creation of

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment is really good, all my colleagues were kind and supportive. Work from home option is available in the company which is a good thing at times of emergency you won't have to stop your work. But because of that I wasn't able to meet my colleagues and manager physically.

Academic courses relevant to the project : Machine Learning, Artificial Intelligence, Deep Learning

Name: VARAD ASAWA(2020A7PS0217H)

Student Write-up

PS-II Project Title: Generative AI

Short Summary of work done during PS-II : Did work on LLM

Tool used (Development tools - H/w, S/w) : Lang chain

Objectives of the project : Generate AI

Major Learning Outcomes : LLM

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good and friendly

Academic courses relevant to the project : ML, AI

Name: SRIRAM RAMANATHAN .(2020A7PS1209P)

Student Write-up

PS-II Project Title: Data Management Platform and Chatbots

Short Summary of work done during PS-II : Had a great time learning and working with LLMs and also working with AWS Glue on the ETL Job. We had a very good experience taking up responsibility and delivering results for the organization.

Tool used (Development tools - H/w, S/w) : AWS Glue, PostgreSQL, Windows Laptop, Microsoft Teams, Python Programming

Objectives of the project : Build a document querying chatbot. Work on client POC using ETL tools.

Major Learning Outcomes : LLM's, AWS Glue, Transformer Networks

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was great. Everyone in the organization was friendly and encouraging and the environment was very conducive.

Academic courses relevant to the project : Deep Learning, Database Systems, Object Oriented Programming

Name: KRISHA VINAY SANGHVI(2020A7PS1724G)

Student Write-up

PS-II Project Title: Data Management Platform- Banking

Short Summary of work done during PS-II : Developed a series of code snippets designed to enhance existing software capabilities or introduce new functionality. Enhanced practical understanding of the software development lifecycle, including the process of code submission and approval for deployment. Executed ETL (Extract, Transform, Load) transformations, successfully coding for the output and obtaining two out of five required output files. Wrote postgresql code for multiple triggers and functions required for database automation

Tool used (Development tools - H/w, S/w) : AWS glue, S3 buckets, PG Admin

Objectives of the project : To achieve data enrichment of entities from the web platform along with data engineering

Major Learning Outcomes : Learnt the intricacies of the Software Development Lifecycle (SDLC). I've developed a practical understanding of how development, testing, and deployment phases intertwine to deliver robust software solutions. Also learnt the intricacies of data process

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : I was a part of the internal product team. We had daily standups, biweekly sprints. Got the contribute to an actual product. The tasks were well defined. Overall, the experience was good, I learnt a lot

Academic courses relevant to the project : DBMS

PS-II Station : Sheru (Seygnux Solutions Pvt. Ltd.) , Delhi

Faculty

Name: Sangeetha Viswanathan

Student

Name: DEV BAJAJ(2020A4PS1866G)

Student Write-up

PS-II Project Title: Live Dashboard and AlertFlow Process Compiler

Short Summary of work done during PS-II : I started initially with the frontend development of the project. That involved learning frameworks like React.js, Next.js and further libraries like Reactflow. The aim was to develop a workflow with various actions like notifying a user, assigning a timer, and creating a Jira ticket. All this just uses drag-and-drop features to ease their use for our customers. This also involved regular sync-ups and discussions with the senior staff and SCM team. As the project reached a substantial point, we created and tested several alerts to be

deployed. Then I was asked to work on the backend part, where I learned technologies like Express.js, Node.js and MongoDB. I worked on creating APIs, creating several Mongo queries for various features and overall testing of the alert. I also worked on the stats we extracted using the Alert data. For the implementation, I applied libraries like D3.js, Chart.js and similar ones to have a clean and intuitive insightful dashboard for the user.

Tool used (Development tools - H/w, S/w) : Web development, Mongoddb, Express.js, Next.js, React.js, VS Code, Material UI, Mongoose, Apache Kafka, Version control

Objectives of the project : Developing innovative solutions for operational enhancement with a focus on system development and alert management using Live Dashboard.

Major Learning Outcomes : Learned full stack development. Worked in remote teams with fast approach on the ideation and execution of the project. Worked on MERN Stack.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Worked in a startup environment with a fast paced approach. Need to upskill quickly. Also work on ideation and design of the product. Inclusive approach.

Academic courses relevant to the project : CS F111 COMPUTER PROGRAMMING

PS-II Station : Siemens Ltd , Aurangabad

Faculty

Name: Samata Satish Mujumdar

Student

Name: HERAMBH KRISHNAA S(2019B4A40003G)

Student Write-up

PS-II Project Title: Automation and Digitalization

Short Summary of work done during PS-II : I wanted to majorly learn and grow in Software development and hence was allotted most work in this domain. Had lot of recap of skills in API testing, Webscraping, Python code for multiple automation, Mendix software for app dev,etc. Apart from this, there were also a lot of work done using Microsoft tools like PowerBI, Excel scripting, PowerAutomate, etc.

Tool used (Development tools - H/w, S/w) : Postman, Python and Libraries, Mendix

Objectives of the project : Webscrape real time data to pass into PowerBI, Make Birthday ppt, Display product deck on a screen, Automate laser marking machine, built an app to track project progress.

Major Learning Outcomes : Mendix

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : At Siemens Energy, Aurangabad, there was a very poor work environment as sometimes upto 8 of us were made to share a small conference room for 2 people with not adequate access to charging ports. No work laptop, no office login credentials, no wifi access, etc were given to us throughout our time at the internship and was asked to do everything on our personal devices. Even for recording no support was given to us and had to stand for hours and record on our phones. There was also not anyone sound in software development here to provide me with any form of guidance and I was left to figure out everything on me all alone. A lot of random projects just to keep me occupied were given and most of them ended up in producing no result as the specifications were not given to me and was the vendor's fault. I even wanted to switch teams where work related to my interests was going on but no interest taken from the manager to even improve my work by 1% also. Since there was such a gap, there were a lot of times when if some task is not happening at

the factory, the reporting manager and team wouldn't understand our point of view but just blindly turn on us. There was also a point where there was no work and we were ask to sand and grind 3D printed objects for days in a room with no ventilation and safety. On the whole, no effort was taken from the organisation or its members to make it an interactive and entertaining internship and hardly any learning happened to a lot of us here.

Academic courses relevant to the project : Nothing

Name: AKSHAT SHISODIA(2019B5A30280G)

Student Write-up

PS-II Project Title: Line Optimization and Process Development

Short Summary of work done during PS-II : Learned how to use mendix. Created a value stream map for processes being performed in the factory. Created a Figma wireframe to help plan the UI for said application. Applied key-principles of domain-driven design to create the database. Then used Mendix to create the CMMS applicaiton - the Inventory, Maintenance, User Management modules etc. Custom CSS was used to stylise the application. Then after the app development was completed it underwent UAT - where it underwent multiple iterations and new features were added repeatedly.

Tool used (Development tools - H/w, S/w) : Mendix, Figma, Azure AD, Custom CSS

Objectives of the project : To develop a Computerized Maintenance Management System that meets the user requirements and Siemens security requirements

Major Learning Outcomes : Understanding Software Development , Working as per an Agile methodology

Details of Papers/patents : Apart from the app development - a User and Technical documentation for the same was created.

Brief Description of working environment, expectations from the company : Work environment - 6 days a week was a little hectic. My team was really communicative and supportive with regards to work and outside of work as well. The responsibility I was given scaled according to the quality of work and commitment that they saw from my end. My team was also always willing to lend a helping hand whenever necessary so as to eliminate any and all roadblocks I was faced with.

Academic courses relevant to the project : none

Name: VIBGYOR SINGHVI(2019B5A30326P)

Student Write-up

PS-II Project Title: GIS condition monitoring

Short Summary of work done during PS-II : Development of IED for gas density monitoring for high voltage GIS. Overall study of condition monitoring for digital substation.

Tool used (Development tools - H/w, S/w) : Raspberry Pi, InfluxDB, ADCs

Objectives of the project : Developing conditioning monitoring prototype

Major Learning Outcomes : Product development route; Substation digitalization standards, protocols and technologies

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Great working environment, supporting mentors

Academic courses relevant to the project : Computer Programming

Name: SAHIL SAMIR PATWARDHAN(2020A4PS0957P)

Student Write-up

PS-II Project Title: Assembly process optimization and Additive manufacturing

Short Summary of work done during PS-II : Productivity optimization through a comprehensive Assembly process time study and Fused Deposition Modeling (FDM) Additive manufacturing integration for fixture development. Notable achievements include identifying efficiency bottlenecks in the busbar Assembly process, proposing improvements, and successfully Additive manufacturing a functional fixture. Insights highlighted the economic advantages of 3D printed fixtures, demonstrating the potential for innovative technologies to enhance manufacturing efficiency.

Tool used (Development tools - H/w, S/w) : AVIX software for time study; Fusion 360, CURA for 3D printing

Objectives of the project : To enhance productivity of 245 kV GIS line; To develop 3D printed fixture prototype for conductor alignment

Major Learning Outcomes : Learnt basics of lean philosophy and AVIX time study software. Learnt Ultimaker CURA for slicing 3D models and hands-on experience with FDM 3D printing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment at this station was very poor because of reasons below:

(i) My mentor made 4 of us interns sit in a room for 2 with just one charging point between us for the entire internship. No individual stations were provided for work.

(ii) During recording process, I was expected to record the 4-5 hr long assemblies in one go using my mobile phone and no arrangements for a handheld camera were made despite multiple requests.

(iii) I had to carry out grinding and sanding of 3D printed parts in the room mentioned above without any mask or other safety gear

(iv) Undisciplined behavior and incompetency of the other intern in my team was promoted by my mentors by not holding him accountable and instead pushing his work on me. I was expected and made to pick up his slack throughout this internship.

Academic courses relevant to the project : Manufacturing Management, Advanced Manufacturing processes

Name: LAKSH AGARWAL .(2020A4PS1075P)

Student Write-up

PS-II Project Title: Automation and RPA

Short Summary of work done during PS-II : Office automations like- 1) search tool for searching technical documents, 2) SAP automation 3) Type test reports database 4)Frequency Response analysis simulations 5) Static mechanical simulations 6) PowerBI dashboard for R&D cost saving initiative.

Tool used (Development tools - H/w, S/w) : Uipath, Python, SQL, SAP, Inventor, PowerBI, PowerApps, Sharepoint,LT spice, Excel

Objectives of the project : Automating office tasks in R&D department in BIC factory

Major Learning Outcomes : A lot of software, product knowledge and soft skills.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment is good, there are 6 day work weeks, the timings are fixed.

The colleagues are all approachable and friendly and mentors provide all support required. The expectations are to provide an end result that can be directly used.

Only issues are with BITS point of contact at Siemens and the IT department is very slow

Academic courses relevant to the project : Computer programming, CAD, Solid mechanics.

Name: PARTH SINGHAL(2020A4PS1827G)

Student Write-up

PS-II Project Title: Intern

Short Summary of work done during PS-II : Both projects provide new insights into existing discourse on the topics in the projects . For time study : Analyzed GIS 245 kV substations, suggested limited automation. For 3D printing : In 3D printing I printed complex display pieces and did post processing

Tool used (Development tools - H/w, S/w) : Fusion 360 , AVIX ,Ultimaker Cura

Objectives of the project : The objective was to bring about automation of assembly lines .

Major Learning Outcomes : Learnt AVIX , did analysis

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was decent so were other things . Mentors and colleagues were helpful and encouraging .

Academic courses relevant to the project : Manufacturing management

Name: KUNAL BHAKRI(2020A8PS1286G)

Student Write-up

PS-II Project Title: Intern

Short Summary of work done during PS-II : Used power automate, office scripts and other plugins that can be integrated with power platform to carry out analysis and processing of excel files which take a lot of human time and effort more efficiently using RPAs

Tool used (Development tools - H/w, S/w) : Ms power platform, office scripts

Objectives of the project : Making RPAs for in office processes and file/data comparison and analytics

Major Learning Outcomes : Learned a lot about ms power platform, advanced excel formulas, also learned about making rpas and using excel scripts

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Very polite employees but take too long to process requests, were busy with their day to day jobs. SEVERE lack of support from some employees and managers have zero clue technical knowhow of the allotted projects. wifi credentials are yet to be allotted and the entire internship has ended. No structured work for interns, felt like a lot of tasks were just given so that we don't just sit empty in office.

Academic courses relevant to the project : None

PS-II Station : Siemens Ltd , Goa

Faculty

Name: Samata Satish Mujumdar

Student

Name: AMARTYA AYUSHI(2019B2A41467H)

Student Write-up

PS-II Project Title: Predictive Demand Planning

Short Summary of work done during PS-II : 1. Predictive Demand Planning - Generated Forecast for material based on consumption pattern using different forecasting methods. 2. MRP : Created two applications, one for shopfloor and one for Warehouse to smoothen the process of material request and replenishment 3. Device State Detection - Created ML application to detect if the device passed or failed the quality test

Tool used (Development tools - H/w, S/w) : Python, PowerBI, Excel

Objectives of the project : Predicting the demand of Materials based on the consumption pattern

Major Learning Outcomes : Python

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is great; you just need to abide by the company's timing.

Academic courses relevant to the project : Manufacturing Management, SCM

Name: VAIBHAV SHUKLA(2019B2A41549H)

Student Write-up

PS-II Project Title: 1)AI Implementation in Clean Room 2)Basket Lifting Mechanism 3)Auto Siliconization 4)Template for Label Posting

Short Summary of work done during PS-II : The application of artificial intelligence in a clean room addressed quality control and regulatory compliance. A basket lifting mechanism was designed, considering load capacity, safety features, and control systems. Auto siliconization processes were automated, focusing on precision and quality control. Additionally, a standardized label template was created, ensuring compliance and efficient information dissemination. Overall, the projects provided a comprehensive learning experience in automation, technology integration, regulatory adherence, and process optimization for improved factory operations. The primary task involved conceptualizing potential mechanisms and strategies to automate operations. Subsequently, the responsibility extended to engaging with suppliers and serving as the primary point of contact between the company and the external vendors.

Tool used (Development tools - H/w, S/w) : CAD, PPT

Objectives of the project : Streamlining and enhancing efficiency in a factory involves automating various processes to alleviate workload and optimize the production of valuable outputs. By introducing automation, we aim to create a more efficient production line, reducing manual efforts and improving overall productivity. The goal is to leverage technology to simplify tasks, ultimately enhancing the manufacturing process for greater effectiveness and output quality.

Major Learning Outcomes : Automation Skills: Acquiring proficiency in implementing automation solutions to improve efficiency across various factory processes.

Integration of Technology: Learning to integrate technologies such as AI, control systems, and automated mechanisms to en

Details of Papers/patents : NIL

Brief Description of working environment, expectations from the company : The work atmosphere is relaxed, offering an excellent work-life balance with a standard office schedule of six days per week.

Academic courses relevant to the project : NIL

PS-II Station : Siemens technology and Services Pvt ltd , Bengaluru

Faculty

Name: Srinivas Kota

Student

Name: SHASHWAT UPADHYAY .(2019B4A40785P)

Student Write-up

PS-II Project Title: Creativity Analysis Tool

Short Summary of work done during PS-II : We started with the literature review to decide on the Key performance indicators for the model. Once our KPIs were settled, we started looking into different technologies present to implement them into the model. Then, we made a rough framework for our model and started building it. In the end, developed a user interface for the demonstration purpose.

Tool used (Development tools - H/w, S/w) : Azure OpenAI Services, GitLab, VScode

Objectives of the project : This project focuses on developing a tool to analyze or measure various aspects of a newly developed product like Sustainability, Functionality, Complexity, etc.

Major Learning Outcomes : Learned a lot about Generative AI

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Overall work culture is quite good. Teammates are supporting and friendly, can consult them for any doubt in tasks or help.

Academic courses relevant to the project : -

PS-II Station : Singlestore India Pvt Ltd , Hyderabad

Faculty

Name: Saikishor Jangiti

Student

Name: ANIKET SHAHA(2019B3A70463G)

Student Write-up

PS-II Project Title: Adding pipeline features for data ingestion

Short Summary of work done during PS-II : I undertook significant tasks, including migrating Python 2 test files to Python 3 for better compatibility. I also resolved critical bugs related to optimizing and implementing features on data ingest pipelines in SingleStore Database. These experiences enhanced my debugging skills and taught me the importance of code compatibility and efficient error diagnostics.

Tool used (Development tools - H/w, S/w) : C++, SQL, Python

Objectives of the project : Enhancing and optimizing pipelines for data ingestion in SingleStoreDB

Major Learning Outcomes : I participated in sprints and collaborative problem-solving sessions, gaining insights into industry practices such as version control, code reviews, and collaboration tools. This internship not only enriched my technical skills but also prepared me for e

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : The working environment of the company is very flexible and supportive. They encourage original thinking and taking on issues that seem exciting and intriguing to you. Overall, a good learning experience.

Academic courses relevant to the project : Database Management, Object Oriented Programming, Data Structures and Algorithms

Name: [JAI KHATRI\(2019B3A70543G\)](#)

Student Write-up

PS-II Project Title: Build Billing Usage Dashboard

Short Summary of work done during PS-II : During my internship at SingleStore, I played a crucial role in the Billing Team, focusing on improving the billing experience for customers. I spearheaded the development of an intuitive dashboard using TypeScript for the frontend and Go for the backend. This dashboard serves as a centralized platform, offering real-time insights into service usage, empowering customers to make informed decisions. Additionally, I contributed to the implementation of automated email notifications for customers and actively addressed any bugs that arose during the development process.

Tool used (Development tools - H/w, S/w) : GoLang, Ginkgo, GraphQL, Typescript, Cypress etc

Objectives of the project : Development of a comprehensive billing dashboard. This dashboard aimed to provide customers with an intuitive and graphical representation of their service usage, empowering them to track resource consumption and make informed decisions

Major Learning Outcomes : I have delved deeply into various tech stacks, including Golang and TypeScript, enhancing my understanding of their intricacies. Additionally, I have acquired comprehensive knowledge of integrated SingleStore features, recognizing their influence on user.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The work environment was excellent, and my mentor was genuinely supportive, ensuring that I had the best internship experience. He consistently assisted me in understanding even the smallest details. The workload was quite manageable, and I had a significant role in shaping and executing various tasks. The company organizes bi-yearly hackathons, providing us the freedom to work on our ideas for the SingleStore product. The atmosphere is highly collaborative, with people always willing to assist and contribute positively.

Academic courses relevant to the project : DBMS, OS, CP, DSA, DAA

PS-II Station : Soma Enterprise Limited , Hyderabad

Faculty

Name: Saikishor Jangiti

Student

Name: SRI KARUN MAGANTI(2019B4PS1383H)

Student Write-up

PS-II Project Title: DATA ANALYSIS AT SOMA ENTERPRISE

Short Summary of work done during PS-II : The Project I worked on is about the vamsadhara reservoir project. I evaluate the data in accordance with the company's demands. Sales, orders, estimates, budgets, and shipments make up the majority of the data. These data are all translated to the necessary output using a few tools, and the analysis is then shown using charts and graphs in dashboards.

Tool used (Development tools - H/w, S/w) : SQL, Power BI

Objectives of the project : Creating dashboards after filtering the data

Major Learning Outcomes : I got to work with real-world data and learned from the various challenges that came with it. I have also improved my communication skills

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : It has been good. My mentor answered many of my questions patiently, and I have learned a lot from him.

Academic courses relevant to the project : Data mining

PS-II Station : Standard Chartered - Business Analyst , Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: SHYAMBHAVI GARG .(2020A1PS1384P)

Student Write-up

PS-II Project Title: Business Analyst

Short Summary of work done during PS-II : Requirements gathering for application feature , User manual documentation, Functional testing, Validation rules testing

Tool used (Development tools - H/w, S/w) : JIRA, Confluence, Excel, SQL

Objectives of the project : Understand the vital role that business analysts play within the bank, putting light on their varied duties, strategic importance, and the shifting environment they must contend with.

Major Learning Outcomes : 1) Business analysis

- o Operational knowledge about SSI and inhouse application
 - o Documentation and communication
 - o SQL, Confluence, Microsoft excel
- 2) Agile Project Management
- o Daily scrum calls
 - o JIRA
 - o Sprint planning
- 3) QA Coordination
- o Preparation o

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : •

- Opportunity to work on a fast-paced project
- Worked with a highly skilled team
- Exceptional mentorship and guidance
- Smooth transition from student life to professional life
- Inclusive work environment
- Networking opportunities, teamwork, effective communication

Academic courses relevant to the project : NA

PS-II Station : Standard Chartered - Business Analyst , Chennai

Faculty

Name: Anjani Srikanth Koka

Student

Name: RISHABH SANDEEP KHANDELWAL(2020A4PS0166P)

Student Write-up

PS-II Project Title: FSS Forecast Automater

Short Summary of work done during PS-II : The FSS Allocation Automation Project at Standard Chartered GBS marks a significant advancement in project resource management by implementing two distinct yet complementary interfaces: an Excel-based interface and a web-based interface. Initially, the Excel interface, with its user-friendly design, employed macro-enabled functionalities to trigger sophisticated Python scripts. This setup allowed for efficient data validation, consolidation, and preliminary analysis, significantly improving upon the manual methods previously employed. However, the Excel interface was not without limitations,

particularly in accessibility, scalability, and collaborative potential. To address these challenges, the project evolved with the development of a comprehensive web interface. The web interface builds on the foundation laid by the Excel tool, offering enhanced capabilities for real-time data integration, advanced analytics, and broader accessibility. It facilitates a more dynamic and collaborative environment where multiple stakeholders can engage with the resource management process simultaneously and remotely. With robust back-end Python scripts running behind a streamlined and responsive front-end, the web interface provides a centralized platform for managing complex datasets, ensuring cross-platform compatibility, and enabling a higher degree of customization. The transition from the Excel to the web interface epitomizes the project's adaptive approach to digital innovation, reflecting a keen understanding of evolving project management needs. The FSS Allocation Automation Project demonstrates a strategic pivot from localized, individual-driven processes to a more integrated, systematic framework. This shift not only enhances efficiency and accuracy but also transforms resource allocation into a transparent, data-driven operation, elevating the overall efficacy and strategic decision-making in project management.

Tool used (Development tools - H/w, S/w) : Python, Flask, Macros (VBA), HTML, CSS< Javascript

Objectives of the project : Automating and streamlining multiple functions within the Project Management process, aiding in Resource Allocation and Budget Management.

Major Learning Outcomes : Flask-Powered Data Handling and Reporting, Full-Stack Web Application Development, Secure Data Management with User-Centric Modular Designing, Adopting User's Perspective more than Developer's

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : 2 days a week
- work from home, overall lite

Academic courses relevant to the project : FuFA, DSA

PS-II Station : Standard Chartered - Software Engineering , Bengaluru

Faculty

Name: Febin A Vahab

Student

Name: KOTAGIRI VINAY CHANDRA(2020A3PS1780H)

Student Write-up

PS-II Project Title: Building inhouse SSI+ application and Junit5 Test cases for Microservices

Short Summary of work done during PS-II : - Developed In-house SSI Application: Orchestrated front-end development and API integrations for in-house standard settlement instruction application and increased STP from 49% to 81%. Reduced SSI creation time from 3 hours to 5mins. Added advanced features like file previewing, dynamic validations and error handling, conditional rendering, exception handling, and visually appealing designs. Added SSI creation, Republish, Close and Amend features on a single platform. - JUnit5: Written JUnit5 test cases for multiple microservices to validate functionality, performance, and reliability. Utilized Mockito for effective mocking and integration testing

Tool used (Development tools - H/w, S/w) : Java, JUnit5, Mockito, ReactJS, TypeScript, MUI Library, Postman, SQL, MS Excel, Git

Objectives of the project : Building inhouse SSI+ application.

Major Learning Outcomes : ReactJs, Junit% testing

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was inclusive for interns and I was put into real time projects during out internship. I was assigned tickets and continuously tracked about the progress. I have gotten a decent help, support and guidance in resolving my doubts from the team mates.

Academic courses relevant to the project : OOPS, DSA

Name: HEMANGI DINESH BOHRA(2020AAPS0384H)

Student Write-up

PS-II Project Title: CONFIRMATION GENERATION APPLICATION

Short Summary of work done during PS-II : During my internship at Standard Chartered, I engaged in impactful projects that significantly advanced my skills in software development. In the J-Unit project, I meticulously analyzed and improved the codebase, implementing JUnit tests to achieve a 60% test coverage. This effort focused on enhancing the robustness and reliability of the existing code. In the Azure DevOps project, I led the migration of 17 microservices from Bitbucket to Azure DevOps, addressing vulnerabilities, and optimizing workflows for increased productivity. This involved a seamless transition and configuration checks, contributing to a more integrated and efficient development environment. The Testing project showcased my proficiency in QA testing and automation using Cypress and JavaScript, resulting in improved bug detection and reduced testing time. Beyond technical skills, the internship refined my communication and collaboration abilities through regular interactions with team members and stakeholders. These diverse experiences collectively shaped me into a more well-rounded software engineer, adept at addressing challenges in code quality, migration, and testing methodologies within a dynamic professional environment.

Tool used (Development tools - H/w, S/w) : IntelliJ, Junit, Mockito , Azure Dev Ops , cypress

Objectives of the project : The objective of the J-Unit project is to enhance codebase reliability through 60% test coverage, employing IntelliJ, JUnit, Mockito, JaCoCo, and Maven. The Azure DevOps initiative involves addressing vulnerabilities, migrating microservices, and leveraging ADO for builds, contributing to sustainability and productivity. The Testing project emphasizes QA testing and automation using Cypress and JavaScript, yielding improved bug detection and reduced testing time. These endeavors have cultivated technical skills in JUnit testing, ADO migration, and Cypress automation, complemented by refined soft skills in communication and collaboration, shaping a well-rounded software engineer adept at balancing technical prowess and interpersonal competence.

Major Learning Outcomes : The internship at Standard Chartered was transformative, offering invaluable learning outcomes across various dimensions of software development. I honed my proficiency in JUnit testing, gaining a comprehensive understanding of its implementation to ensur

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : During my internship at Standard Chartered, the working environment was dynamic and collaborative, fostering innovation and continuous learning. The company set high expectations for project delivery, encouraging a hands-on approach to problem-solving and a commitment to excellence. The atmosphere promoted open communication, enabling effective collaboration with team members and stakeholders. Expectations included a thorough understanding and application of software development principles, the ability to navigate complex projects such as J-Unit and Azure DevOps migration, and a focus on achieving tangible results that contribute to the organization's goals. The company valued both technical expertise and soft skills, emphasizing effective communication and adaptability. The internship provided a rich learning experience, challenging me to apply theoretical knowledge in a real-world setting and fostering a proactive and solution-oriented mindset.

Academic courses relevant to the project : Oops

PS-II Station : Standard Chartered - Software Engineering , Chennai

Faculty

Name: Febin A Vahab

Student

Name: NITIN ARUL(2019B3A80606G)

Student Write-up

PS-II Project Title: Working in Digital Channels

Short Summary of work done during PS-II : Containerized legacy java applications, created an internal java to

Tool used (Development tools - H/w, S/w) : Java

Objectives of the project : Create a Java tool

Major Learning Outcomes : Learnt Java and containerisation in depth

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Had to go to office only twice a week, team was very friendly and most of the work was remote

Academic courses relevant to the project : OOP

Name: SAMYAK PANKAJ PAHARIA(2020A8PS1824H)

Student Write-up

PS-II Project Title: Chaos Engineering and Platform Building

Short Summary of work done during PS-II : My internship at Standard Chartered GBS primarily involved contributions to the development of the Chaos Platform, which is designed to improve the resilience of IT systems. I analyzed Load Runner log files to extract payloads and verify transaction statuses, crucial for efficiency assessment. Additionally, I engineered a MySQL-based solution complemented by Spring Boot APIs for streamlined data retrieval and parameter configuration. Another significant part of my work was the design of attack vectors for Kafka in chaos experiments, focusing on Kafka's configurable parameters to identify potential vulnerabilities. Furthermore, I developed a user-friendly interface for SpiralForge, creating a dynamic 'User Management' tab to enhance user interaction and management efficiency. This experience allowed me to apply theoretical knowledge practically, significantly improving my software engineering skills and providing insights into the banking and finance sector's software requirements.

Tool used (Development tools - H/w, S/w) : Software: NLTK, Python, Kafka, MySQL, React.js, Spring Boot API.

Objectives of the project : To develop the Chaos Platform aimed at enhancing IT system resilience at Standard Chartered GBS.

Major Learning Outcomes : 1)Gained proficiency in analyzing Load Runner log files and extracting crucial data for efficiency assessment and status verification.

2)Developed technical skills in engineering a MySQL-based solution with Spring Boot APIs, adhering to the Model-Service-

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : I had a great time during my internship at Standard Chartered GBS. The workplace was friendly and professional. Everyone worked together well, focusing on new technology and making banking better.The company expected me to be dedicated and good at handling any tech stuff.They expected a quick learner.

Academic courses relevant to the project : Database Systems, Object-oriented Programming, Software Engineering,

PS-II Station : Stocklite Gemms Pvt. Ltd. - Web Development , Bengaluru

Faculty

Name: Anjani Srikanth Koka

Student

Name: SAMRIDHI SINGH .(2020A1PS1710P)

Student Write-up

PS-II Project Title: Web dev

Short Summary of work done during PS-II : Wordpress

Tool used (Development tools - H/w, S/w) : Wordpress

Objectives of the project : Enhancing the website to provide better user experience

Major Learning Outcomes : wordpress

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : There was no work environment as such ,it was an early stage startup with bitsian students who were there for PS 2 and one driver plus the CEO company ,that was it about the work environment

Academic courses relevant to the project : None

PS-II Station : Sumadhura Geomatica Pvt. Ltd. , Hyderabad

Faculty

Name: Vaishali Pagaria

Student

Name: ANANYA KRISHNA SARVA(2020A3PS1001G)

Student Write-up

PS-II Project Title: Risk Management and Mitigation Consulting

Short Summary of work done during PS-II : During my PS-II, I was simultaneously working on multiple projects but risk management projects were the most significant. I spearheaded the development of a comprehensive Risk Assessment Framework (RAF) that proved instrumental in fortifying our organization against potential threats. The initial phase involved meticulously identifying and classifying risks across various categories, employing methods such as brainstorming sessions and data analysis. Through a collaborative effort with key stakeholders, we formulated a risk measurement and analysis strategy, combining both qualitative and quantitative approaches to assess the likelihood and impact of each identified risk. Once risks were prioritized, we seamlessly transitioned into the risk treatment and response phase. Here, we crafted robust strategies for mitigating and responding to the identified risks, tailoring our approaches based on the significance and feasibility of each risk. We created an MVP for portfolio diversification and mitigation of financial risks. Simultaneously, I took charge of implementing scenario analysis and stress testing methodologies to fortify our risk management arsenal. By identifying and modelling potential scenarios and stressors, we gained critical insights into our organization's vulnerabilities and resilience. These exercises not only facilitated a deeper understanding of risk interdependencies but also paved the way for the development of effective

response strategies. Regular monitoring and continuous improvement were woven into the fabric of our approach, ensuring the adaptability of our risk management framework to the evolving business landscape. Through these projects, we not only enhanced our organization's risk preparedness but also fostered a culture of proactive risk management that continues to drive our success in navigating uncertainties.

Tool used (Development tools - H/w, S/w) : Bloomberg Terminal, Metricstream, ServiceNow, Tableau, QuickMVP

Objectives of the project : Objectives of Risk Mitigation project: (1) To develop a systematic process to identify and categorize a wide range of risks that could impact the organization, including operational, financial, strategic, compliance, and reputational risks. (2) Establish methodologies for both quantitative and qualitative analysis to assess the likelihood and impact of identified risks, providing a holistic view of the risk landscape. (3) To formulate effective risk response strategies, including avoidance, mitigation, transfer, or acceptance, tailored to the significance and feasibility of each risk. (4) To align the risk assessment process with strategic planning, ensuring that risk management is integrated into decision-making processes at all levels of the organization. Objectives of MVP Project: (1) To develop a user-friendly interface for the Risk Assessment Framework that allows stakeholders to easily navigate and input relevant data. (2) To create a system for inputting and storing risk data, ensuring that it is organized, easily accessible, and capable of capturing a comprehensive range of risk information. (3) Include basic functionalities for risk analysis, allowing users to assess the likelihood and impact of identified risks using predefined scales or parameter (4) To design the MVP with scalability and adaptability in mind, allowing for future integration of advanced features, technologies, and additional risk management modules.

Major Learning Outcomes : I acquired a comprehensive understanding of various types of risks that can impact an organization, including operational, financial, strategic, and compliance risks. I developed skills in identifying and categorizing risks through methods such as brainst

Details of Papers/patents : It was a hands on project that we did from scratch. The details of patents of our creation were confidential and were not shared with interns.

Brief Description of working environment, expectations from the company : During my PS-II, I expanded my creative thinking skills in challenging and rewarding ways. The dynamic nature of the projects I undertook required constant innovation and problem-solving. Being allotted to multiple projects and having to brainstorm for all of them helped me create new perspectives and sparked my creativity. I learned to approach challenges with an open mind, and with time, I began exploring unconventional solutions and thinking outside the box. This hands-on experience allowed me to develop and apply project management methodologies, ensuring timelines were met, resources were optimized, and deliverables were on time. The team of individuals with diverse backgrounds, skills, and expertise created a dynamic and vibrant work atmosphere. This encouraged us to exchange ideas and plans and work together as a unit. The team leaders and managers created an encouraging professional learning and growth environment. I was welcomed by a team that fostered a culture of collaboration, support, and mentorship. It helped my all round development.

Expectations from company: To give opportunities for professional development to stay current with evolving risk management trends and technologies. I also expect the company to constantly conduct tutorials for employees to keep up with market updates. I expect them to keep continuing to work in the risk management space and generate more opportunities for youth. I also expect them to regularly update and refine the Risk Assessment Framework to account for emerging risks, changes in the business environment, and lessons learned from previous risk events.

Academic courses relevant to the project : Optimization

Fundamentals of Finance and Accounting

Financial Management

Security Analysis and Portfolio Management

Derivatives and Risk Management

Business Analysis and valuation

Probability and Statistics

Pr

PS-II Station : Sundial Systems Pvt. Ltd. , Bengaluru

Faculty

Name: Sangeetha Viswanathan

Student

Name: YADNESH PRAVINKUMAR MUNDHADA ,(2019B3A70394P)

Student Write-up

PS-II Project Title: Backend Eng, Big Data Processing, Cloud Platform

Short Summary of work done during PS-II : My work majorly involved in the Backend Ingestion Team. I worked on Self Serve Ingestion. I mainly used Python, Pyspark, Go languages

Tool used (Development tools - H/w, S/w) : Go, Python, Pyspark, AWS, Spark, Postgres, OpenSearch, Kubernetes, Dagster

Objectives of the project : The project work revolved around these 3 areas - 1. Sundial Big Data Platform 2. Sundial's insights-engine and Backend Insights Processing Layer, 3. Sundial's AWS based Cloud Platform

Major Learning Outcomes : 1) Got to work with a Strong Top Talent Engineering team in an early stage startup environment with exposure to end to end System and Product Building.
2) Go, Python, Pyspark, AWS, Backend Engineering

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work Environment is absolutely supporting, and people are very open and willing to help. Seniors guide you throughout the process. There are expectations to finish work by the given deadline (reasonable).

Academic courses relevant to the project : OS, Computer Networks, DBMS, OOP

PS-II Station :

Faculty

Name:

Student

Name: KHARE NEEL YASHODHAN(2019B4A70620G)

Student Write-up

PS-II Project Title: Building new insights and datasets for clients

Short Summary of work done during PS-II : Built insights using python and golang

Tool used (Development tools - H/w, S/w) : Spark go aws

Objectives of the project : Build 2 new features for the data platform and datasets for robust testing

Major Learning Outcomes : Learnt how to work with real life client data which is large in size

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment and culture

Academic courses relevant to the project : Foundations of data science

PS-II Station : Svastir Technology Services Pvt. Ltd. , Kolkata

Faculty

Name: Sangeetha Viswanathan

Student

Name: AMISH MUKESH MEHTA .(2020ABPS1851P)

Student Write-up

PS-II Project Title: OpenTECHE

Short Summary of work done during PS-II : .

Tool used (Development tools - H/w, S/w) : Teams, Excel, Figma, GeekBench, Python

Objectives of the project : Set up new Supply Chain for Tech Hardware Products

Major Learning Outcomes : - Pre product launch experience

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : .

Academic courses relevant to the project : Lean Manufacturing, Supply Chain Management, FundaFin

PS-II Station : Synchrony , Hyderabad

Faculty

Name: Y V K Ravi Kumar

Student

Name: GUJAR VEDANT MILIND(2019B1A80957G)

Student Write-up

PS-II Project Title: Ecom-Dashboard API

Short Summary of work done during PS-II : My work in synchrony is mostly on Java spring spring. First I did a course on Java spring and spring boot and started working on the backend side of my project. After completing the project I wrote all the test cases for the same using JUnit and mockito.

Tool used (Development tools - H/w, S/w) : PCF, Swagger UI, bitbucket, intelliije, VScosde, postman

Objectives of the project : To make a fasboard to update all the versions and meta datas of all the API's under Ecom team and display them

Major Learning Outcomes : Java spring and spring boot, JUnit and mockito, PCF, Swagger UI, And may soft skills as well

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Working in Synchrony is really great. We get to do work from home so work life balance is also great. Beside

that all the peoples working here are very supportive, knowledgeable and helpful and because of this environment we get to grow in different aspects of life.

Academic courses relevant to the project : Computer programming

Name: SHUBH VARSHNEY .(2019B4A30771P)

Student Write-up

PS-II Project Title: Test Automation

Short Summary of work done during PS-II : Developed and optimized robust test automation scripts using Java Spring-Boot, Rest Assured, and Cucumber BDD, boosting efficiency. Crafted and integrated Test Data management services, transitioning from hardcoded data to dynamic sets, enhancing test accuracy by 70%. Significantly expanded test coverage for key features, from 3 data points to 20, ensuring comprehensive quality assurance. Also, revamped the codebase for over 10 distinct repositories, meticulously implementing "AES encryption" to significantly enhance data security. Led the innovation of an internal "AES encryption" package, standardizing the security of password handling practices across the organization while also developing a SpringBoot-based utility class for password management, bolstering backend security, and resolving previously identified vulnerabilities.

Tool used (Development tools - H/w, S/w) : IntelliJ Idea, Git, BitBucket, JIRA, Swagger UI

Objectives of the project : Validating various APIs and Creating a password encryption package

Major Learning Outcomes : Java Core, Spring-Boot, Spring MVC, Rest Assured, and Cucumber

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : Synchrony is a leading US financial services provider, offering consumer financing, credit cards, and digital banking for individual and business empowerment. It offers a great working environment and work-life balance. While sometimes you feel you have less to no work, you are simultaneously getting trained in various professional skills, apart from technical ones as well. It offers a complete work from home working style, so it is best for individuals who want to stay with their family and work.

Academic courses relevant to the project : CP, DSA, OOP, OS, NNFL, ASM

Name: AMITABH S MISHRA .(2019B5A80800P)

Student Write-up

PS-II Project Title: Developing Workstation

Short Summary of work done during PS-II : Developing features , working from office and from home, made me accustomed to corporate life. Writing code under senior developers, helped me understand what are the best practices that we follow. The internship also gave me the freedom to learn technologies and apply them like I learned struts framework while doing my work in the intership. It also made me learn how to manage my time, the shift timings are from 2-11 pm. Since mine was a totally remote internship. The stipend was totally reasonable.

Tool used (Development tools - H/w, S/w) : STS, Oracle SQL Developer, Teams, Outlook, WinScp, Putty,

Objectives of the project : To develop features in the application based on the requirements given by the business.

Major Learning Outcomes : Learned how internal applications are build in an organisation and how to follow a SDLC to acheive maximum outcome. Understood the corporate life.

Details of Papers/patents : I am not allowed to disclose the patent due to signing NDA.

Brief Description of working environment, expectations from the company : You can expect to learn how a bank that offers Private Label Credit Card works, how to collaborate with team members, how to work on legacy code. We had certain compliance trainings which gave us the understanding how Synchrony makes money and what basic rule and regulations I should follow while working in the company.

Academic courses relevant to the project : OOPs(for learning JAVA only)

Name: KONKALA RITHVIK(2020A8PS0517H)

Student Write-up

PS-II Project Title: Capacity Management for Business Applications

Short Summary of work done during PS-II : Used Splunk, BMC helix and Python to analyze data collected from different sources and utilized the data to make ML models. These models are then presented to the respective team where we make a sense of how the future of the business application looks.

Tool used (Development tools - H/w, S/w) : Splunk, BMC Helix, Python

Objectives of the project : Understand the different business applications synchrony uses and analyze their efficiency

Major Learning Outcomes : How we can use data to predict the behavior of business applications and prevent any service outages.

Details of Papers/patents : N.A

Brief Description of working environment, expectations from the company : Synchrony is a very comfortable place to work, has unlimited wfh option and good benefits with a very good program to nurture interns. The company is quite flexible and interns can give input on the tech stack they desire to work on.

Academic courses relevant to the project : ML, AI, OS

Name: NITIN SHEKHAWAT(2020AAPS1442G)

Student Write-up

PS-II Project Title: IBM ACM Solution , Loan Approval Process

Short Summary of work done during PS-II : In this project at Synchrony, I orchestrated the optimization of Advanced Case Management (ACM) solutions. Leveraging IBM Case Builder and FileNet, I designed and implemented a streamlined workflow, integrating 12 crucial properties encompassing customer data and loan specifics. This structured workflow involved Associate and Manager roles, expediting case reviews and approvals. I enhanced the user experience within the ACM solution by integrating widgets and usability features, ensuring a more intuitive interface. Additionally, employing Fortify bolstered security measures, rectifying vulnerabilities and ensuring compliance. Utilizing SonarQube, I significantly improved code quality by reducing cognitive complexity in the team's codebase. These efforts collectively streamlined case management, fostering operational efficiency, quicker decision-making, and improved data organization. This experience enhanced my proficiency in ACM solutions, security implementations, UI/UX enhancements, and code quality improvement, equipping me with practical skills and insights crucial for efficient project execution in complex operational settings.

Tool used (Development tools - H/w, S/w) : IBM Case Builder, FileNet, SonarQube, Fortify

Objectives of the project : I made the loan approval process solution using IBM ACM, In my workflow I added two users for the smooth usage of IBM Case Manager Client, I added multiple

widgets and Inbaskets for the smooth use through client, This project aims at loan approval cases that are registered in the Company

Major Learning Outcomes :

The project enhanced expertise in ACM solutions, security implementations, and UI/UX enhancements. I learnt code quality improvement and streamlined workflow design. Valuable insights were gained in operational efficiency and collaborative project execut

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Overall work environment is excellent , Allowing permanent work from home to interns as well, Mentors are very supportive and made the smooth transition possible from academic to corporate world. We got many learning opportunities in every field possible, Technical, Non technical. We had various sessions and meets with the company leaders as well.

Work environment is good

Academic courses relevant to the project : Object Oriented Programming, DSA

PS-II Station : Synechron Technologies Pvt. Ltd. , Bengaluru

Faculty

Name: Venkata Krishna Sashank Dara

Student

Name: ARCHITA SRIVASTAVA(2020A1PS2046G)

Student Write-up

PS-II Project Title: Chart-Interpretation

Short Summary of work done during PS-II : I walked on chart interpretation which he used to interpret charts, like bar, charts, charts, line, charts

Tool used (Development tools - H/w, S/w) : Deplot

Objectives of the project : To make interpretation of charts easier using Gen AI

Major Learning Outcomes : Machine Learning , Generative AI

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : It was supportive

Academic courses relevant to the project : Computer program

PS-II Station : Tamilnadu Minerals Ltd. , Chennai

Faculty

Name: Glynn John

Student

Name: SHUJA JAMEEL SIDDIQUI(2019B2A10948G)

Student Write-up

PS-II Project Title: Advancing TAMIN's Graphite Business: Technological Enhancements, Beneficiation Strategies, and Value-Added Product Innovations

Short Summary of work done during PS-II : The Graphite Beneficiation process had been comprehensively understood, and samples were sent to IIT Madras for material characterization by SEM-EDS, XRD, TGA, and ICP-MS Techniques. The performance of a new grinding aid had been tested at the lab scale, and we had learned about the design of experiment and how lab-scale technologies could be translated to pilot scale and plant scale. Tailings had been analyzed, and efforts were targeted to increase recovery. Plant-scale parametric changes had been carried out, resulting in significant improvements in production. New processes were being tested to add to the value-added business.

Tool used (Development tools - H/w, S/w) : Excel, google sheets

Objectives of the project : Process Improvement, Research and Development

Major Learning Outcomes : Understanding of graphite beneficiation process, understanding of material characterization techniques such as SEM-EDS, XRD, TGA, ICP-MS. Understanding of design of experiments and industrial research and development.

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : While the company's technological advancements are commendable, there's room to optimize project timelines and data organization. The absence of a dedicated chemical engineer and the current workload distribution create temporary hurdles.

By working together to refine processes and optimize resource allocation, the company can build a stronger foundation for future growth and continued innovation, solidifying its industry standing.

Academic courses relevant to the project : Separation Process, Chemical Process Technology, Chemical Engineering Laboratory, Instrumental Methods of Analysis

Name: AMARJITH MANJOO(2020A1PS2514H)

Student Write-up

PS-II Project Title: Process Improvement in Graphite Beneficiation And Market Potential of Graphite Value-added Products.

Short Summary of work done during PS-II : The graphite beneficiation project commenced with a crucial site visit to the Sivaganga plant, where an introduction to site personnel and equipment took place. This initial interaction set the foundation for understanding the existing processes and identifying areas for optimization. Armed with insights from the site visit, the focus shifted to ball milling experiments. Concurrently, ore samples were provided at various stages for detailed characterization at IIT Madras, involving SEM-EDS, XRD, and TGA analyses. This phase contributed essential information for refining beneficiation strategies. Post-characterization, attention turned towards the installation of a pilot plant at Sivaganga. Extensive studies and discussions ensued, including the acquisition of quotes for equipment procurement. Another visit to Sivaganga followed, specifically to modify the rod mill charge ratio. This adjustment proved highly impactful, resulting in a notable 6-8% increase in recovery compared to previous levels. This success underscored the project's dynamic nature, integrating on-site experimentation, scientific analysis, and strategic modifications to enhance overall beneficiation efficiency

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : Maximizing Graphite Recovery, Ensuring High Purity, Economic Viability, Tailoring to Ore Characteristics, Competitive Positioning in the Market

Major Learning Outcomes : Practical Application of Theoretical Knowledge, In-Depth Understanding of Graphite Beneficiation Processes, Optimization Strategies, Pilot Plant Development Skills, Market Awareness and Product Quality Considerations, Problem-Solving and Optimization Tech

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The working environment during the graphite beneficiation project was overall positive, characterized by collaborative efforts and a commitment to achieving project goals. Expectations from the company were centered on leveraging the internship for skill development, gaining insights into the industry,

and contributing meaningfully to the project. The company's support in facilitating the site visit, providing access to essential information, and encouraging experimentation with optimization strategies contributed to a rich learning experience.

However, one notable aspect was the absence of a designated main chemical engineer to report to. While the working environment was positive overall, having a key point of contact within the chemical engineering domain would have provided a more streamlined communication channel and enhanced guidance specific to the field.

Academic courses relevant to the project : Process Design Principles, Separation Process, Fluid Mechanics, Chemical Engineering Lab, Material Science and engineering

Name: DEVESH MITTAL .(2020A8PS0570P)

Student Write-up

PS-II Project Title: Streamlining TAMIN's I.T. & Core Research Projects: Technical consultant, collaborations, and Value-added product innovations

Short Summary of work done during PS-II : Work assigned to me during PS2 was a mix of project management, communication, report writing along with IT and IoT knowledge. Major projects in the company are delayed due to lack of relevant and sufficient staff. As a result, work was assigned to identify loopholes and fix those issues to get the projects done including erp development, website development, hiring of deputy manager for systems department, implementation of solar dryer in factory, and suggestions report for increasing grade1 silica sand production. During the duration of PS2, I got opportunity to interact with people of various domains and backgrounds which enhanced my communication as well as social skills and we'll acquainted me with office environment.

Tool used (Development tools - H/w, S/w) : Laptop and internet connection mostly. Printers can be counted as a hardware used

Objectives of the project : To collaborate with relevant people and identify loopholes and get the delayed projects done. Technical consulting and suggestions providing.

Major Learning Outcomes : Teamwork, professionalism, negotiation skills, corporate skills, reporting skills, time management, body language upscaling

Details of Papers/patents : No paper/patents published

Brief Description of working environment, expectations from the company : Work environment was positive and encouraging. Managers were supportive and the overall environment was inclusive. Even though there was a major linguistic barrier because of Tamil language, people surrounding me in the office were supportive enough and eager to teach me some frequently used tamil words. Ample facilities were met and we were taken care of by the company by providing every facility which students requested for comfortable work setup.

Academic courses relevant to the project : Internet of Things, Technical Report Writing, principles of management, computer programming, human resource development, organisational psychology

PS-II Station : Techure Structures , Indore

Faculty

Name: Mahesh K Hamirwasia

Student

Name: KRRISH GOYAL(2019B4A20668P)

Student Write-up

PS-II Project Title: BIM

Short Summary of work done during PS-II : I worked on sheet creation in Revit. The work was monotonous and didn't have anything worth learning. Techtur does building information modelling (BIM) for clients who sends the design.

Tool used (Development tools - H/w, S/w) : Revit, BIM360

Objectives of the project : Sheet Creation

Major Learning Outcomes : Collaboration

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment is very good in AEC teams

Academic courses relevant to the project : CPT

Name: [VIBHU DHANDA .\(2019B4A20685P\)](#)

Student Write-up

PS-II Project Title: BIM Modelling

Short Summary of work done during PS-II : Modelling and Sheet creation in Revit

Tool used (Development tools - H/w, S/w) : Revit, Navisworks, Advance Steel

Objectives of the project : Modelling and Sheet creation in Revit

Major Learning Outcomes : Learned BIM

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment, helpful and good-natured seniors.

Academic courses relevant to the project : NA

Name: SAKSHAM MIDHA(2019B5A40453G)

Student Write-up

PS-II Project Title: REVIT MEP MODELING FOR ARCHITECTURE, ENGINEERING, AND CONSTRUCTION INDUSTRY

Short Summary of work done during PS-II : This project's learning outcomes will equip participants with a comprehensive skill set, from advanced technical proficiency to soft skills like collaboration and communication, positioning them as well-rounded and forward-thinking professionals ready to excel in the evolving BIM industry of 2023.

Tool used (Development tools - H/w, S/w) : AutoDesk Revit

Objectives of the project : Incorporate various building systems, ensuring that the structure is equipped with all the essential elements required for comfortable living and functionality.

Major Learning Outcomes : Comprehensive Understanding of BIM, Advanced BIM Tools and Technologies.

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working environment was good.

Academic courses relevant to the project : N/A

PS-II Station : Techtore Structures Pvt Ltd. , Nagpur

Faculty

Name: Pavan Kumar Potdar

Student

Name: VARADA SAI DATTA VISHNU .(2020A2PS0263P)

Student Write-up

PS-II Project Title: BIM IMPLEMENTATION FOR CONSTRUCTION

Short Summary of work done during PS-II : GOT KNOWLEDGE ABOUT BIM IMPLEMENTATION IN PRE CONSTRUCTION STAGE. FINISHED AN ENTIRE PROJECT BY OURSELVES UNDER GUIDANCE.

Tool used (Development tools - H/w, S/w) : REVIT, NAVISWORKS, BIM 360

Objectives of the project : ENHANCIBILITY OF PRE CONSTRUCTION

Major Learning Outcomes : LEARNED SOFTWARES RELATED TO BIM LIKE REVIT AND NAVISWORKS

Details of Papers/patents : NONE

Brief Description of working environment, expectations from the company : IT WAS GOOD OVERALL WITH SOME ISSUES FROM FROM ASSISTANT COORDINATORS.

Academic courses relevant to the project : CONSTRUCTION PLANNING AND TECHNOLOGY

Name: SUDEEP PUSPA KUMAR .(2020A2PS1763P)

Student Write-up

PS-II Project Title: BIM development of residential and commercial projects (names are covered by NDA)

Short Summary of work done during PS-II : As a BIM intern, I was responsible for modelling building projects on Revit, doing clashes detection and resolution on Navisworks, studying inputs for possible questions to the client, extracting detailed and shop drawings for the same. I was also entrusted to learn basic automation and dynamo.

Tool used (Development tools - H/w, S/w) : Software - Revit, Navisworks, BIM 360, AutoCAD

Objectives of the project : 1. To develop a BIM model of the project, 2. Materials estimate, 3. Cost estimate, 4. Scheduling, 5. Clash detection and coordination

Major Learning Outcomes : BIM modelling, drawing extraction, clash detection and coordination (Navisworks), client communication

Details of Papers/patents : None (the projects involved no research papers or patents)

Brief Description of working environment, expectations from the company : Working environment - Sometimes stressful owing to interns being in charge of project delivery, issues with coordination, and guidance to new team members. Conducive to learning.

Expectations from the company - Timely project submissions, competent client communication/handling. Improvements required in the training process, and team coordination and assignments.

Academic courses relevant to the project : Construction Planning and Tech, Design of Reinforced Concrete Structures, Design of Steel Structures, Foundation Engineering

Name: SONNER NIKHIL VAIBHAV(2020A2PS2466H)

Student Write-up

PS-II Project Title: Mumbai Height Building, Delhi Metro Mall, Portugal Auditorium, etc.

Short Summary of work done during PS-II : Work Done for PS-2: Firstly learned to read and understand Autocad drawing and Learned making provided 2D Autocad drawing into actual 3D Model using Revit. Also learned the clash detections, repeated elements provided to particular model into Navisworks.

Tool used (Development tools - H/w, S/w) : Revit, Navisworks, Autocad, Bluebeam, etc.

Objectives of the project : 3D Modelling of Building, Cost Estimation, Clash Detection, etc.

Major Learning Outcomes : Learned softwares like:

- 1] Revit for 3D modelling
- 2] AutoCAD for 2D plans
- 3] Navisworks for Clash Detection.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Work environment was quite good and seniors are really supportive. As the owners of the company are BITSANS, they really supports. Skills you learn here are really helping you if you want to pursuit your career in Civil Engineering. Staff here is very cooperative and will help you. Skills are still not fully handed over as you are just an intern. They also trained us in softskills like public Speaking, Group Discussions, Presentation, Client dealing, etc.

Overall a good experience.

Academic courses relevant to the project : Construction Planning and technology, Design of steel structures, Design of reinforcement Concrete, Foundation Engineering,etc.

PS-II Station : Texas Instruments (I) Pvt. Ltd - Systems , Bengaluru

Faculty

Name: Sathisha Shet K

Student

Name: SIDDHARTHÂ CHOUDHARY .(2019B1A80197P)

Student Write-up

PS-II Project Title: Development of a prototype cloud-based application for customizing firmware for DLP controllers.

Short Summary of work done during PS-II : My first few weeks were involved in completing Intern Learning modules. Later I had to brush up my knowledge of Embedded systems and C language. For the same I was given provided with necessary documentation from my mentor. Additionally there were several 1-0-1 sessions with project mentor and other team members that served as doubt solving /knowledge transfer sessions. My main work was to design and implement a DFU app that would enable the end user to upgrade the firmware present on his/her DLP controller, with just a pen drive. Parallely I was allotted several small tasks for testing and debugging some of the features in DLP projectors. This part of the work was mostly lab based.

Tool used (Development tools - H/w, S/w) : ARM development studio, Source tree,JIRA, TI - DLP proprietarytools.

Objectives of the project : Design and Implementation of a Device Firmware Upgrade (DFU) app(secondary bootloader) for enabling end users to upgrade the DLP controllers using a USB 2.0 flash drive.

Major Learning Outcomes : Learnt about core embedded systems topics-

- 1) USB standard
- 2)Communication protocols like UART,SPI,I2C.
- 3)Make files, Batch scripts, Linker scripts, map files.
- 4)RTOS
- 5)FAT32 File system
- 6)Debugging
- 7)ESD training
- 8)Lab handling and other industry standard

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The work environment was good and supportive. There were many junior engineers in my team, and they were always ready to help me out of the silliest of problems.

My team was actively involved in sports and other recreational activities outside work to foster team bonding.

Overall, TI has an above-average work-life balance. There were some rare weeks too, that were stressful due to release deadlines. If one is a core enthusiast, TI is one of the best companies to work for.

Academic courses relevant to the project : Microprocessors and Interfacing, C programming.

Name: ANGEL MARIA BABY .(2019B2A80997P)

Student Write-up

PS-II Project Title: Rules based engine for dynamic data driven inventory management

Short Summary of work done during PS-II : The initial half of my project involved familiarization with the e-commerce logic of TI through KT sessions and few JIRA tasks like updating certain scheduled process, testing via insomnia etc. The latter part involved comparative analysis of 8 different rules based engine based on rule authoring features, UI option, Integration into existing project etc. To choose the ideal language a proof of concept was performed on 3 rule languages namely-drools, easy rules and decision rules.

Tool used (Development tools - H/w, S/w) : VS Code ,Python, Java, Spring boot, React, HTML, Drools

Objectives of the project : The objective of the project was to do comparative analysis of rules based solution available in the market and to perform a proof of concept on the same to determine the optimal solution to integrate with E-commerce management of TI.

Major Learning Outcomes : Business process automation for a near real time data management using a rules engine to segregate business logic and code base

Details of Papers/patents : The papers I referred during my internship are:-

1. P. Tosanguan and T. Suwannasart, "An approach for defining rules as functions in rule-based software development," Seventh International Conference on Digital Information Management (ICDIM 2012), Macau,

Brief Description of working environment, expectations from the company : During my internship, the work environment was exceptionally positive and collaborative. Colleagues were consistently supportive, fostering a sense of teamwork. My mentor ensured I had all the necessary resources for my project and conducted regular reviews to track progress. The company prioritized a culture of learning, providing ample opportunities for skill development and offering all necessary means for continuous growth.

Academic courses relevant to the project : Computer Programming

PS-II Station : The Hi-Tech Robotic Systemz Ltd , Gurugram

Faculty

Name: Sangeetha Viswanathan

Student

Name: NITANT TARANG KOTHARI .(2020A3PS1779P)

Student Write-up

PS-II Project Title: Automobile/Electronics

Short Summary of work done during PS-II : Worked on OpenCPU devices and Driving Monitoring Systems

Tool used (Development tools - H/w, S/w) : H/w - Neoway , S/w - KeIL

Objectives of the project : Embedded Systems

Major Learning Outcomes : Embedded C

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Excellent

Academic courses relevant to the project : ADVD, MuE

Name: CHIRAG AGARWAL .(2020A8PS1808P)

Student Write-up

PS-II Project Title: Visual Simultaneous Localisation and Mapping (VSLAM)

Short Summary of work done during PS-II : During my internship, I had the privilege of working on a VSLAM project with a primary focus on map refinement and computational analysis. My key responsibilities included optimizing existing VSLAM algorithms to enhance mapping accuracy and simultaneously improve the computational efficiency of the system. This involved algorithmic enhancements, memory management strategies, and parameter tuning to achieve optimal CPU and memory usage. I actively contributed to the refinement of mapping algorithms, implementing improvements in feature extraction, loop closure detection, and overall spatial representation of the environment. The project aimed to strike a balance between mapping precision and computational efficiency, ensuring the system's adaptability to dynamic environments.

Tool used (Development tools - H/w, S/w) : Hardware used: Intel RealSense Sensor and Intel NUC Software Used: ROS, Docker, Ubuntu, OpenCV, Python and RTAB-Map

Objectives of the project : 1.)Enhance the precision and accuracy of the generated maps by implementing improved mapping algorithms and techniques. 2.)Optimize algorithms and code structures to improve the overall computational efficiency of the VSLAM system.

Major Learning Outcomes : I acquired proficiency in utilizing several advanced technologies, including ROS (Robot Operating System), Docker, and RTAB-Map. I learned and understand the impact of different parameters on system performance and develop the ability to fine-tune these p

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The workplace emphasized collaboration, with team members actively sharing insights, engaging in regular discussions, and working together on various aspects of the project. This collaborative culture promoted a collective approach to problem-solving. The working environment encouraged a

problem-solving approach. Challenges were viewed as opportunities for innovation and improvement, fostering a mindset that motivated team members to find creative solutions to complex issues. Leadership within the organization was supportive, providing guidance and mentorship to team members. This supportive leadership style contributed to a positive working environment and motivated individuals to excel in their roles.

Academic courses relevant to the project : NA

PS-II Station : Thorogood , Bengaluru

Faculty

Name: Sandeep Kayastha

Student

Name: DAMLE YASH RAJENDRA(2019B2A40897G)

Student Write-up

PS-II Project Title: End to end data analytics using ETL process

Short Summary of work done during PS-II : Cutlass Dashboard Developed an end-to-end analytics solution to streamline & consolidate diverse business requirements for a tobacco company, by unifying Product SKUs, customer, and time dimensions with Sales data through an ETL process Leveraged Azure Data Bricks, Azure Data Factory, DevOps, CI/CD pipelines and Power BI to efficiently handle data ingestion, transformation, orchestration, deployment, and visualization processes. Global Infrastructure Team Dashboard Created a comprehensive Power BI dashboard for the Infrastructure Team. Enabled real-time monitoring and assessment of the well-being of computers and servers used by Thorogood employees worldwide. Used Web APIs, Power Automate and MySQL for data ingestion and data transformation. Transforming Consumer Survey Data into Actionable Insights Mapped and visualized terabytes of consumer survey data

for CPG Company, providing actionable insights into consumption patterns, consumer preferences, market sentiments and demographic and psychographic user profiles. Leveraged a comprehensive analytics solution utilizing ADB, ADF, SQL, MS-Excel, Power Apps, and Power BI, facilitating informed decision-making and strategic initiatives for the client.

Tool used (Development tools - H/w, S/w) : SQL, ADB , PBI, ADF

Objectives of the project : streamline & consolidate diverse business requirements for a tobacco company, by unifying Product SKUs, customer, and time dimensions with Sales data through an ETL process

Major Learning Outcomes : sql, adb,adf, power bi

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : GOOD AND ENCOURAGING

Academic courses relevant to the project : CP, Prob stats

Name: DUBEY UTKARSH RAJESH(2019B5A40811H)

Student Write-up

PS-II Project Title: Data Analyst

Short Summary of work done during PS-II : Processing of data provided by client to be done across various layers using Azure Databricks and Data factory. DevOps is used to move from one environment to another and PowerBI used for creating visuals for reporting business requirements.

Tool used (Development tools - H/w, S/w) : Learnt Software skills like SQL, Python, Databricks, Data factory, DevOps and PowerBI.

Objectives of the project : Enhance decision-making processes by analyzing and interpreting data to derive actionable insights, enabling informed business strategies

Major Learning Outcomes : Soft skills - Teamwork, Time management, leadership, etc.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Company has a very friendly work environment. Company also provides training for 2 months which is quite helpful to someone who is new to this field.

Academic courses relevant to the project : None

Name: RAHUL JAMES(2020A2PS1334P)

Student Write-up

PS-II Project Title: Power BI Deployment Exploration and CI/CD Pipelines for Unit Testing

Short Summary of work done during PS-II : I completed a profound six-month internship at Thorogood, a remarkable company with a great work atmosphere and encouraging coworkers. The first two months were spent receiving in-depth instruction from professionals in the field, which proved to be very beneficial in the field of data analysis. The learning curve was challenging yet rewarding, offering real-world knowledge and practical experience. I owe BITS Pilani a debt of gratitude for this chance, which has greatly advanced my career development.

Tool used (Development tools - H/w, S/w) : 1. Azure Cloud 2. Databricks 3. Power BI

Objectives of the project : To explore PBI deployment

Major Learning Outcomes : Domain knowledge acquired: Data and Business Analytics and Consulting

Skills acquired:

1. Azure Cloud
2. Databricks
3. Power BI

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : I completed a profound six-month internship at Thorogood, a remarkable company with a great work atmosphere and encouraging coworkers. The first two months were spent receiving in-depth instruction from professionals in the field, which proved to be very beneficial in the field of data analysis. The learning curve was challenging yet rewarding, offering real-world knowledge and practical experience. I owe BITS Pilani a debt of gratitude for this chance, which has greatly advanced my career development.

Academic courses relevant to the project : Computational Economics

Name: AYUSH DAS(2020A4PS1836G)

Student Write-up

PS-II Project Title: 1.Transforming Recruitment Operations: A Comprehensive Report on the Implementation of the Recruitment Tracker WebApp at Thorogood Associates 2.Analytics and Consulting: Bridging Data Engineering, Visualization, and Client Interaction

Short Summary of work done during PS-II : The Recruitment Tracker project at Thorogood encompassed the development and implementation of a comprehensive web application using Microsoft PowerApps, Power BI, and Power Automate. The application streamlined the entire recruitment process, offering features from candidate assessment to onboarding. Leveraging

Power BI, real-time analytics dashboards were integrated, providing stakeholders with dynamic insights for data-driven decision-making. The project utilized SQL Server as the backend storage solution, establishing a centralized repository for historical recruitment data. Power Automate played a crucial role in automating workflows, reducing manual efforts for HR teams in data entry and ensuring seamless data flow between PowerApps and SQL Server. The user-centric design principles incorporated into the application enhanced the user experience for HR professionals, making it adaptable to Thorogood's unique processes. The project not only achieved efficiency gains but also laid the groundwork for continuous improvement, with a roadmap for future enhancements based on user feedback and evolving organizational needs. Overall, the Recruitment Tracker project successfully addressed HR challenges, fostering a more efficient, data-driven, and adaptable talent acquisition process at Thorogood.

Tool used (Development tools - H/w, S/w) : PowerApps, SQL, PowerBI, Power Automate, Azure Data Bricks, Azure Data Factory, Azure DevOps

Objectives of the project : 1. Implement a Comprehensive Recruitment Tracking System:

- Develop a robust web application using PowerApps to comprehensively track the recruitment process from candidate assessment to onboarding.

2. Enable Data-Driven Decision-Making with Power BI:

- Integrate Power BI dashboards to provide real-time analytics and statistics, empowering stakeholders to make informed decisions based on recruitment data.

3.

Establish a Centralized Storage Solution with SQL Server:

- Utilize SQL Server as the backend storage system to create a centralized repository for storing and managing all historical recruitment data.

4. Automate Workflows and Data Flows with Power Automate:

- Implement Power Automate to automate workflows, ensuring seamless data flow between the PowerApps front end and the SQL Server backend through stored procedures.

5.

Enhance Data Entry Processes and Reduce Manual Efforts:

- Streamline and automate the data entry processes to reduce manual efforts, allowing HR teams to focus on higher-value tasks.

6. Facilitate CRUD Operations for HR Teams:

- Enable HR teams to perform Create, Read, Update, and Delete (CRUD) operations on candidate data, making it easier to manage and update information as needed.

Major Learning Outcomes : Integration of Microsoft Power Platform:

Understanding the seamless integration of Microsoft Power Platform tools, including PowerApps for app development, Power BI for analytics, and Power Automate for workflow automation.

Data-Driven Decision-Making:

G

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Thorogood provides a vibrant and collaborative working environment characterized by a strong sense of camaraderie and a commitment to professional growth. The open-door policy fosters a culture where colleagues, regardless of seniority, readily share knowledge and offer assistance, creating a supportive and inclusive atmosphere.

Expectations from the company align with a dedication to maintaining a healthy work-life balance. The organization recognizes the importance of efficient work during designated hours, minimizing the need for employees to extend their working day beyond 7 pm. This emphasis on balance acknowledges the value of personal time and well-being.

The project managers at Thorogood, with their extensive experience, not only guide employees but actively contribute to their professional development. The company sets high standards for technical proficiency, effective communication, and problem-solving skills. This commitment to excellence is complemented by a nurturing environment that encourages employees to learn, collaborate, and contribute to the success of both individual projects and the organization as a whole. Thorogood's working environment and expectations reflect a holistic approach that prioritizes employee well-being, continuous learning, and the collective pursuit of excellence.

Academic courses relevant to the project : No courses in particular

Name: [SHIKHAR VERMA\(2020A5PS2578H\)](#)

Student Write-up

PS-II Project Title: Integrated Data Mastery: ETL, Orchestration, and Power BI Innovation

Short Summary of work done during PS-II : During my internship at Thorogood, I engaged in a diverse range of projects. The initial phase focused on constructing intricate dimension and fact

notebooks within the dynamic Databricks environment. This involved meticulous detailing of elements like time, product, and customer. Additionally, I delved into the orchestration of data flows using Azure Data Factory, ensuring the smooth transition of our work from development to production. A pivotal phase of my internship centered around the Apollo Underwriting project. Tasked with migrating complex processes from SQL to a bespoke solution, I innovatively utilized Azure Data Factory to transfer data from Apollo's SharePoint website to our advanced data lake storage system. This not only demonstrated adaptability but also set a benchmark for introducing new solutions within the organization. In collaboration with the JTI team, I leveraged my Power BI expertise to craft a comprehensive dashboard for a critical client demo workshop. Beyond traditional visualizations, the project required in-depth exploration of advanced features such as Co-pilot, Smart Narrative, Key Influencers, and the QnA feature. This showcased my proficiency in Power BI and highlighted a deep dive into cutting-edge functionalities, ensuring a dynamic and impactful presentation for our valued clients. Throughout these projects, I enhanced technical proficiency in Databricks, Azure Data Factory, and Power BI, while also cultivating adaptability, innovation, and client-centric presentation skills. The internship at Thorogood provided a transformative learning experience, where hands-on application of advanced technologies was coupled with creative problem-solving and effective communication in a professional setting.

Tool used (Development tools - H/w, S/w) : Azure Databricks, Azure data factory, SQL, DevOps, Power BI, Form Recognizer Studio

Objectives of the project : Project 1-To develop a whole system for the client, for them to move their operations from SQL to the new dynamic system. Project 2- Create a Power BI dashboard using latest AI features for a client workshop.

Major Learning Outcomes : The internship at Thorogood, encompassing Databricks, Azure Data Factory, and Power BI, provided significant learning outcomes. Constructing intricate notebooks, orchestrating data flows, and implementing advanced Power BI features enhanced technical skill

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : My internship at the company provided an excellent work environment. Initially, there was a mandatory in-office presence for interns, but with understanding seniors and a great team, occasional work-from-

home was permitted based on work quality. The initial two-month training period covered Azure Databricks, Azure Data Factory, DevOps, SQL, and Power BI, along with a comprehensive case study.

Entering the project phase, I found myself in a supportive team that treated me not just as an intern but as a valued team member. I was fortunate to have a dedicated mentor who played a crucial role throughout my journey, offering guidance and support. The work culture fostered a positive work-life balance, with a five-day workweek and no work on weekends.

Academic courses relevant to the project : Python coding, Analytics courses, SQL, Power BI

PS-II Station : Tikkl Events India Pvt Ltd , Bhubaneswar

Faculty

Name: Vineet Kumar Garg

Student

Name: HEMANT AGARWAL(2020A1PS0706P)

Student Write-up

PS-II Project Title: Book Search Web Application, and Tikkl Mobile Application Components, Unit Testing, Documentation and Pages

Short Summary of work done during PS-II : i.) The Book Search Application is a web-based platform enabling users to search for books using Open Library's Search API. It features a home page with a search bar, a search button, and a book list view. Clicking on a book redirects users to a detailed book page displaying specific book details, including the book name, author name, and cover image. ii.) The Tikkl Mobile Application is the core project that my team and I worked on as part of my PS-II program. We have developed this application from scratch during my time here. The app is intended for users to book tickets to virtual or in-person events. It shows the

ticket details, the transactions, booked tickets with QR codes, the security page with a password change feature, and the user profile page with an edit feature.

Tool used (Development tools - H/w, S/w) : React.js, Carbon Design System, GitLab, VSCode, MacOS Command Line, Recoil, React Native, JEST, StorybookJs, Wretch API, Carbon React Native

Objectives of the project : 1. Develop Book Search Web Application using Open Library APIs.
2. Develop Tikkl Mobile Application components and pages, and write their snapshot tests using JEST, and Storybook documentation

Major Learning Outcomes : JavaScript, ReactJs, React Native, JEST Snapshot testing, Storybook documentation, Carbon React, Carbon React Native, Git

Details of Papers/patents : N. A.

Brief Description of working environment, expectations from the company : My PS-II was in Work From Home mode. My team and I had meetings every Monday-Friday. We discussed our work, our progression, further tasks etc. Also my mentor helped clear my doubts in these meetings. My team members were always ready to help out. I was able to complete all my assignments on time.

Academic courses relevant to the project : N. A.

PS-II Station : Tycho Technologies , Noida

Faculty

Name: Jyotsana Grover

Student

Name: AVI TEWARI .(2020A3PS1220P)

Student Write-up

PS-II Project Title: Product Management Intern

Short Summary of work done during PS-II : worked on the services side of the company as well as the product side. Developed a game production process for the company's specific genre of games

Tool used (Development tools - H/w, S/w) : Unity, AppRadar, AppAnnie

Objectives of the project : - streamline process of production of games

Major Learning Outcomes : - learned about gaming industry

- agile development and project management
- product management

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : very good working environment, work from home is allowed as per your choice, daily working hours are from 8 am to 5 pm

Academic courses relevant to the project : NA

PS-II Station : UBER - Data Analytics , Hyderabad

Faculty

Name: Chetana Anoop Gavankar g

Student

Name: AGRAWAL ROSHAN RAKESH .(2019B1A30191P)

Student Write-up

PS-II Project Title: Data warehousing and management reporting

Short Summary of work done during PS-II : Building data pipelines, business insights, dashboarding, data crunching

Tool used (Development tools - H/w, S/w) : SQL, g sheet, python, data studio

Objectives of the project : Data warehousing and management reporting

Major Learning Outcomes : Data analytics

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Great culture, its Uber

Academic courses relevant to the project : DBMS

Name: CHIRAG GARG(2019B2A40048G)

Student Write-up

PS-II Project Title: Airport Alerting System

Short Summary of work done during PS-II : Created an alerting system for Airport domain to detect the anomalies which will reduce the Time-to-resolution and will increase in customer satisfaction. This alerting system will help UBER in saving a lot of money (Agent cost, Refund and appeasement.)

Tool used (Development tools - H/w, S/w) : SQL, GSheets, uWorc, uVitals

Objectives of the project : To create an Airport alerting system for anomalies detection

Major Learning Outcomes : Get to know how real world works...

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Great team and culture, really good benefits, buzzing atmosphere in the office, interesting work and problems to solve

Academic courses relevant to the project : QCAR

Name: TIRUMALA BHANU PRAVEEN(2019B2A41437H)

Student Write-up

PS-II Project Title: Toll Alerting

Short Summary of work done during PS-II : Anomalies detection for all Toll related Data.

Tool used (Development tools - H/w, S/w) : Sql,Uworc,uVitals,Python.

Objectives of the project : Detecting Anamolies

Major Learning Outcomes : Querying,Pipeline configuration,uVitals

Details of Papers/patents : nothing

Brief Description of working environment, expectations from the company : Good Work and life balance

Academic courses relevant to the project : Operational management

Name: GUVVALA SRI HARSHITA(2020A4PS0884H)

Student Write-up

PS-II Project Title: GSQ Change Management

Short Summary of work done during PS-II : To resolve JIRA requests to find out any discrepancy in the data.

Tool used (Development tools - H/w, S/w) : SQL

Objectives of the project : To ensure correct data inflow into the standard tables used in UBER.

Major Learning Outcomes : SQL, Google Sheets, Stakeholder Management, Project Management

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The working environment at UBER is very good.

Academic courses relevant to the project : N/A

Name: RISHAV RAJ .(2020A8PS1818P)

Student Write-up

PS-II Project Title: Snowball Impact Analysis, Hexcluster Surge Analysis

Short Summary of work done during PS-II : I wrote and understood SQL queries to analyze the frequency of support tickets raised due to issues during trips within these hexclusters. A significant part of my project involved presenting the data and drawing conclusions about when the highest number of support tickets were reported in connection to trips, how these support tickets related to trip data, and which specific types of support issues were most common. I also assessed the ineffectiveness of FIFO logic for Snowball Queues I rapidly acquired proficiency in SQL, Python for automation, Google Sheets, Data Studio, and Uber Internal tools, aligning with project needs. Hexographer was a relatively new concept, but I swiftly grasped it through video tutorials, documentation.

Tool used (Development tools - H/w, S/w) : SQL, Google Sheets, Uber Internal Tools

Objectives of the project : Analyze the impact of changing the routing logic for Snowball Queues (Worst kind of support tickets Uber faces) to prioritize contacts. Preparing a presentation on my analysis of trips vs ticket data for important events and locations.

Major Learning Outcomes : Enhanced proficiency in data analysis by comparing different trends.

Developed advanced query-building skills to extract and interpret data based on specific criterias.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : My internship experience at Uber was truly memorable, largely due to the incredibly supportive and friendly atmosphere cultivated by everyone I had the pleasure of working with. What I cherished most was the collaborative and encouraging work environment shaped by my team members, mentor, and manager.

The highlights for me were the moments spent bonding with my team and fellow interns. Uber's approach of blending work and leisure seamlessly ensured that there was never an overwhelming sense of pressure. I deeply appreciated the willingness of all employees, regardless of their teams, to lend a helping hand whenever needed. Our team outings played a significant role in strengthening our connections and creating lasting memories.

Academic courses relevant to the project : None which I did

PS-II Station : UBS - Risk Methodology , Mumbai

Faculty

Name: Niranjan Swain

Student

Name: GURMEHAR SINGH KATHPALIA(2019B3A30567G)

Student Write-up

PS-II Project Title: Risk methodology

Short Summary of work done during PS-II : Working in the qrm team for the risk department in ubs mumbai. I have worked on a few projects of model validation and modelling.

Tool used (Development tools - H/w, S/w) : R, excel, python, latex

Objectives of the project : Quantitative analysis

Major Learning Outcomes : Risk analysis

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working environment of the company has been very good, good work life balance

Academic courses relevant to the project : Finance related

Name: A SRIVATHSA(2019B3A30574G)

Student Write-up

PS-II Project Title: Combines Stress testing and Loss Projections for US Mortgage Lending Models

Short Summary of work done during PS-II : I was involved in solving the audit issues that needed immediate closure. I undertook training for regulatory filings and made contributions to existing models .

Tool used (Development tools - H/w, S/w) : Gitlab,R, Python

Objectives of the project : Model Development and Maintenance

Major Learning Outcomes : Learnt the process of developing risk projection models and other tasks related to model maintenance

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : Great work culture

Academic courses relevant to the project : Applied econometrics

Name: SARA PRAJWAL(2019B3A80413H)

Student Write-up

PS-II Project Title: Combined Stress Testing

Short Summary of work done during PS-II : Verifying the model plausibility for further use

Tool used (Development tools - H/w, S/w) : Gitlab, excel, python SAS, sql

Objectives of the project : Model development and maintenance

Major Learning Outcomes : Model development and maintenance

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : Good.

Academic courses relevant to the project : Econometrics, applied econometrics

Name: VARUN SUNIL SHETTY(2019B3AA0547G)

Student Write-up

PS-II Project Title: Lombard Lending

Short Summary of work done during PS-II : My main goal as a member of the Lombard team was to use my knowledge and experience to support the team's development and smooth operation. I concentrated on the following main goal during the reporting period- Performance Reporting, ie, Produce thorough performance reports that include financial analysis, risk exposure, and important metrics for the Lombard loan portfolio. Inform senior management of findings to help with strategic decision-making.

Tool used (Development tools - H/w, S/w) : Risklab, Gitlab, Excel, Jira

Objectives of the project : Determining the Haircut value to be applied to various securities in a portfolio

Major Learning Outcomes : Learnt about the Lombard Lending Value models and how to calculate the haircut amounts for various models in order to get their lending values.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : In our organization, the work environment is like a supportive and thriving community where everyone's unique talents shine. Teamwork is not just a word; it's a daily practice. Colleagues are friendly, approachable, and always ready to lend a helping hand. Open communication is the cornerstone – from leaders who genuinely listen to every team member's ideas, to regular team meetings where everyone has a chance to contribute. Flexibility is embraced, promoting a healthy work-life balance. Recognition is abundant, acknowledging achievements both big and small. Learning is a continuous journey with ample opportunities for professional growth. The physical workspace is comfortable, and the virtual environment is seamlessly connected, fostering collaboration. Overall, the atmosphere is positive, encouraging, and energizing, making each day a joy to be a part of this exceptional work family.

Academic courses relevant to the project : Derivatives and Risk Management

PS-II Station : UBS (Global Reference Data Operations) , Mumbai

Faculty

Name: Niranjan Swain

Student

Name: SHREYAAN SHARMA(2020A3PS1139H)

Student Write-up

PS-II Project Title: Process Optimization for New URD Platform

Short Summary of work done during PS-II : I played my part at UBS in advancing their long-term goals through the initiative, "Process Optimization for New URD Platform," which focused on a cloud-native Unified Reference Data platform. This platform aims to streamline data processes across UBS, enhancing efficiency and data quality. My project involved analyzing existing processes, creating optimized process flows, and supporting stakeholders through the complex transition to the new platform. I've worked on numerous processes, identifying redundancies and automation opportunities for improved efficiency. Additionally, I contributed to the development of supervisory controls and the conceptualization of user interfaces for the platform. My thorough review of documentation and process flows ensures a clear understanding for all stakeholders, facilitating further improvements and optimizations. Overall, my work significantly contributes to realizing the transformative potential of UBS's Unified Reference Data platform.

Tool used (Development tools - H/w, S/w) : MS Excel, MS Visio, Python Scripts (Alteryx, I haven't used this but it'll be helpful to know)

Objectives of the project : Optimization of process before migration to new platform to enhance efficiency while decreasing the cost and effort involved

Major Learning Outcomes :

1. Exposure to hundreds of financial data processes taking place everyday at the backend of an investment bank.
2. Enhanced technical skills in tools like MS Excel and MS Visio.
3. Enhanced soft skills like stakeholder management, business communication,

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : At UBS, work hours are long, but the atmosphere is chill, and colleagues are great. The tasks might be a bit mundane, but they help you learn. UBS supports interns well, making the experience positive despite challenges on the way. Expectations of the company might vary with role, I have seen people being given work like full-time employees, but at the same time, my project was not that intense in terms of hours of work required.

Academic courses relevant to the project : N/A

Name: KENIYA JINAY KIRAN .(2020A8PS0807P)

Student Write-up

PS-II Project Title: Data Operations

Short Summary of work done during PS-II : I was not part of any project and instead was required to complete the tasks that are done by employees. These tasks were mostly related to consolidating and updating data received from the different divisions within the firm. They had different frequencies and were important so that the correct information is reflected and stored in the downstream servers of the firm.

Tool used (Development tools - H/w, S/w) : Excel, Reference Data Management Tool

Objectives of the project : Maintaing and updating data

Major Learning Outcomes : Excel, Communications skills, Collaboration skills, Prioritisation

Details of Papers/patents : Report on Information Management at UBS

Brief Description of working environment, expectations from the company : The working environment as well as the people were good. However, their intern intake was not planned. Instead of projects, we were given BAU (Business as Usual); tasks usually performed by employees. There was also a shortage of the number of employees in my team, which led to an increased workload on me and an expectation that I sometimes work outside of my working hours. Overall, my experience was disappointing considering the expectations that I had from a firm like UBS.

Academic courses relevant to the project : None

Name: DIVYAM GOEL(2020A8PS0832P)

Student Write-up

PS-II Project Title: Data ETL and maintain3nce

Short Summary of work done during PS-II : The work was mostly BAUs and repetitive in nature. There was no learning as such related to finance. The task was to upload and maintain data in UBS's portal.

Tool used (Development tools - H/w, S/w) : The tools were just UBS's internal websites and no particular techstack was used. There was no hardware related project as well.

Objectives of the project : There was no project assigned. I worked on BAUs in the Instruments team and account data management team

Major Learning Outcomes : Teamwork, Multitasking while meeting the different commitments

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment is pretty good. All the people are welcoming and treat each other as friends. There are fun activities organized once a month within the department.

Academic courses relevant to the project : NA

PS-II Station : UBS Business Solutions (India) Private Limited - RAS FINANCE , Pune

Faculty

Name: Niranjan Swain

Student

Name: PRATHAM JAIN(2019B4A40898H)

Student Write-up

PS-II Project Title: Business Analytics- Growth & Sustainability

Short Summary of work done during PS-II : I was assigned to the analytics team where focus was on developing visualizations and insights for the relevant stakeholders. I participated in knowledge transfer where I was given an overview of what the main day to day operations of my team are and learnt about how the data is segregated and briefly about the GWM side of things. I then learnt the BI tool used by the organization and worked on building visualizations and improved the existing visualizations. Then I used python to develop models required by the team.

Tool used (Development tools - H/w, S/w) : Power BI, python ,excel

Objectives of the project : To create dashboard to provide insights and write code.

Major Learning Outcomes : Learnt about reporting and building dashboards. Improved python skills

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good working environment, people are kind and approachable. Good learning curve.

Academic courses relevant to the project : Mathematical modelling and ASP. BAV, project appraisal.

Name: ADIT KALBALIA .(2020A7PS0064P)

Student Write-up

PS-II Project Title: Financial Reporting and automation of

Short Summary of work done during PS-II : Mainly involved analysing, automating and reporting the revenues/costs of the various segments of the investment banking division of the company. Analysis and automation was mainly done using Power BI and reporting was done using Excel.

Tool used (Development tools - H/w, S/w) : Power BI, Excel

Objectives of the project : Accurate financial reporting and analytics along with automation

Major Learning Outcomes : Understood the process of analysing and reporting the revenues and costs of an investment bank. Also learnt automation using Power BI.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Very welcoming and helpful coworkers making it easy to learn on the job. Workdays of 9 hours with some flexibility in terms of work from home scenarios.

Academic courses relevant to the project : FundaFin, SAPM, FinMan

Name: SHIVAM MISHRA .(2020A7PS1681P)

Student Write-up

PS-II Project Title: Automation of Access Management Report

Short Summary of work done during PS-II : Fetched data from Upstream using SQL queries and visualize them using Power BI. Another project I worked on is Automation of Excel files using Python

Tool used (Development tools - H/w, S/w) : Power BI, Azure Databricks, Pycharm

Objectives of the project : Reducing time consumption in Daily and Quarterly Activities. Increasing Efficiency to reduce Operational Risk

Major Learning Outcomes : Hierarchical Structure of an organisation, Collecting Data from Upstream using SQL, visualization using Power BI, Automaton Using Python worked on different libraries such as Numpy, Pandas, Openpyxl

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Working environment is great. Mentors are quite helpful. Hiring is on lower side due to Credit Suisse Integration but if you are doing work then there is chance. PS Prof is also very helpful. Dual degree students generally have higher chances of getting PPO.

Academic courses relevant to the project : Computer Programming

Name: THEEGALA SUJITH REDDY(2020A8PS0464H)

Student Write-up

PS-II Project Title: RAS finance

Short Summary of work done during PS-II : Business as usual activities

Tool used (Development tools - H/w, S/w) : UBS specific software

Objectives of the project : Daily BAUs

Major Learning Outcomes : NA

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good

Academic courses relevant to the project : None

Name: ARSH MOHAN .(2020A8PS1795P)

Student Write-up

PS-II Project Title: Automation of Access Management Reports

Short Summary of work done during PS-II : 1. Accelerating Report Creation and Enhancing User Experience through Python Adoption: The utilization of Python, leveraging advanced

libraries such as NumPy and Pandas, has proven to be transformative. The objective of accelerating data handling tasks has been effectively met, resulting in a significant reduction in report creation time. Previously, the VBA code necessitated a considerable 5 to 10 minutes for a single report, whereas the Python code now enables the creation of reports within seconds. This represents a remarkable 90% increase in process efficiency.

2. Enhancing Reports with Python Automation: Precision and Style The strategic objective of automating report generation using Python to enhance operational risk management within the bank has resulted in a notable improvement in the accuracy and visual appeal of generated reports. The transition from manual Excel-based processes to Python automation has effectively minimized the potential for human errors, contributing to a more reliable and precise reporting mechanism crucial for decision-making at higher management levels.

3. Switching from Tableau to Power BI: Dashboard Conversion As my team moved away from Tableau to adopt Power BI for dashboard development, I was assigned the responsibility of aiding in the smooth transition and migration of these dashboards.

Tool used (Development tools - H/w, S/w) : Python, Numpy, Pandas, Openpyxl, Jupyter Notebook, Pycharm, SQL, Power BI, Excel

Objectives of the project :

1. Optimizing Report Generation Efficiency through Transition to Python: To optimize the report creation process within the Access Management Team at UBS, the overarching objective is to strategically transition from the current VBA code to Python. The primary aim is to address the significant time consumption issues observed in the existing workflow, specifically attributed to the slow reading and processing of substantial Excel files, ranging from 5 to 10 megabytes in size.
2. Operational Risk Mitigation through Automated Report Generation with Python To enhance operational risk management within the bank, the objective is to automate report generation using Python, thereby minimizing the potential for human errors associated with manual Excel-based processes. This strategic transition aims to ensure the accuracy and reliability of reports critical for decision-making at higher management levels.

Major Learning Outcomes : Throughout my internship, I've had the opportunity to acquire and cultivate a diverse set of skills. The experiences have been instrumental in my learning journey, providing a platform for skill development and enhancement.

1. Technical Skills:

□ Visuali

Details of Papers/patents : .

Brief Description of working environment, expectations from the company : The working environment at UBS is very good. You can also do WFH as per your wish. People present at UBS are very supportive. Overall its a great place to work.

Academic courses relevant to the project : Basic Financial Knowledge is reuired.

PS-II Station : Udaan , Bengaluru

Faculty

Name: Annapoorna Gopal

Student

Name: SIDDHARTH KHEMKA .(2020A1PS1727P)

Student Write-up

PS-II Project Title: Fresh Buyer profiling and market penetration

Short Summary of work done during PS-II : The project scope included deliverables like tracking metrics for various priority objectives for company growth, like buyer penetration, retention, new onboarding rate, etc. The project work required tracking metrics across different verticals like marketing, sales, supply chain, operations, and sourcing/purchase data. The ultimate objective was to develop data-driven decisions to reinforce the already-existing choices and modify them if necessary to achieve maximum output/efficiency. 6 - Research - The work included some research regarding different mathematical algorithmic models for sales forecasting and geographical and geospatial density research for the geographical expansion of business. New

Product development - Not relevant Design - The design and strategization of promotions, which no one in the team had yet done, was a part of the project; the design included customized promotions and marketing to achieve maximum revenue. Testing - The design part of promotions and a new method of geographical expansion required testing of various models to be applied for geospatial expansion. Productivity improvement - As suggested earlier, the project mainly focussed on improving efficiency and productivity for the products and services using data and business analytics. 7 - Work done includes 1) Creation of multiple excel and power BI dashboards across different verticles such as operations, supply chain, sales, and marketing for tracking metrics and analysing performance, 2) Setting up many SQL standard queries, which help reduce the time taken to extract data. 3) Monthly promotions design and strategy, including execution and post-run analysis to improve revenue directly. 4) Use of QGIS and GMM software for geospatial mapping and expansion of business in a more efficient way with better tracking that enables transparency in the system.

Tool used (Development tools - H/w, S/w) : SQL, QGIS, Google My Maps, Excel, Power BI, Looker Studio

Objectives of the project : Fresh Buyer profiling and market penetration

Major Learning Outcomes : Learning Outcomes - Learning how to leverage data analysis to leverage operational and cost decisions, The project contributed to improvement in the monthly revenue for the team as a direct result of promotions and better and more efficient tracking of ma

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment was motivational enough and a well put together team helped work , the company is expected to scale more, being a unicorn and further work related to scaling and expansion can be expected, working environment was good enough to work alone or in groups and conduct short or detailed meetings for team reviews and recon

Academic courses relevant to the project : Financial Management, Business Analysis and Valuation, Fundamentals of finance and accounting

Name: KARTIK CHOPRA(2020A1PS2126G)

Student Write-up

PS-II Project Title: Growth of B2C Business

Short Summary of work done during PS-II : Worked on a variety of projects. Work generally revolved around analyzing data of customer's buying behaviors. Trying to figure out trends, forecast future sales etc

Tool used (Development tools - H/w, S/w) : MS Excel, MySQL

Objectives of the project : Grow Udaan's Customer Base

Major Learning Outcomes : Learned a lot about the e commerce industry. Also learned about how data is cleaned, analyzed and used to generate insights that help in decision making.

Details of Papers/patents : None as such

Brief Description of working environment, expectations from the company : Company environment is pretty chill. Flexible working hours, work given is not too much either (although this depends on your manager, you can always ask for more work xD). Generally helpful people all around.

Academic courses relevant to the project : None as such

Name: ADARSH SAJEEV.(2020A2PS1764P)

Student Write-up

PS-II Project Title: Data Driven Financial Analysis and Automation at Udaan

Short Summary of work done during PS-II : - Implemented a multitude of business dashboards which track various KPIs to facilitate decision making - Done CoGS check and RCA for various products trading in the negative margin - Implemented various python scripts in order to update and automate various workflows (for example mailing of daily reports) - Learnt to use Advanced Excel, Power BI, SQL and Python for data analysis.

Tool used (Development tools - H/w, S/w) : Excel, MySQL, PowerBI, Python

Objectives of the project : Provide up to date data of various KPIs (such as GMV, ABS, AOV) split across various regions and categories in order to facilitate the finance team's decisions through the implementation of Business Dashboards on Excel and PowerBI

Major Learning Outcomes : Learnt usage of Excel, PowerBI, and SQL to implement live-updated business dashboards.

Details of Papers/patents : No patents

Brief Description of working environment, expectations from the company : Relatively average working environment, standard 9-5 working hours with very few days going into overtime. Not much pressure from the manager's side and everyone will give you time to pick up on things.

Academic courses relevant to the project : All finance minor related courses are a good help. (DRM, FoFA, FinMan, etc.)

Name: TANISHQ CHOUDHARY .(2020A4PS0590P)

Student Write-up

PS-II Project Title: Understanding customer data and needs for articles.

Short Summary of work done during PS-II : My work of extraction of data via Sql and then make appropriate dashboards in excel and use them to interpret situation and work accordingly for optimization of articles in warehouse and in general.

Tool used (Development tools - H/w, S/w) : Excel,SQL,PowerBI

Objectives of the project : My job was extraction of data and make suitable dashboard to understand customer needs.

Major Learning Outcomes : Learned a lot about data analysis and working within the corporation. I also learned to communicate with peoples regarding projects and was able to achieve my objective.

Details of Papers/patents : No papers

Brief Description of working environment, expectations from the company : Working environment was very good,company was smooth regarding work life balance.

Academic courses relevant to the project : Supply chain management

Name: YASH THAKUR(2020A7PS0961G)

Student Write-up

PS-II Project Title: GTM strategy for expansion in Bangalore City

Short Summary of work done during PS-II : Initially I was involved in the day-to-day analysis tasks of the team. Later on, due to a vacancy and my inclination towards strategy and management, I was given the role of the Lead GTM Strategy / Central Program Manager for the Pharma department. With this role, I was given the responsibility to scale the Pharma team in the entire city of Bangalore, which included strategising, hiring, trainging and surveying, among other tasks.

Tool used (Development tools - H/w, S/w) : SQL, Excel, Javascript

Objectives of the project : Scaling in the entire city of Bangalore from 0

Major Learning Outcomes : Data/Business Analysis, Business Strategy, Cross-team communication

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment differs from team to team - Most of my friends had a pretty chill time with good work life balance. I, on the other hand, had quite a hectic time in Udaan since my team (Pharma) was scaling then - I had to put in a lot of extra hours to keep up with the start-up pace.

Academic courses relevant to the project : Business Communication, DBMS

Name: SAPALE OM SHAILESH(2020A8PS0553G)

Student Write-up

PS-II Project Title: Risk Analytics & Modeling

Short Summary of work done during PS-II : To check evaluate risks associated with client/borrower profiles, resulted in multiple profitable avenues. To analyse, set up visibility of the financials of the entire supply chain financing. This includes the PnL, disbursements, Assets Under Management, Par Values, Days past credit free period (DPD). To set up automated processes to mitigate human errors and make it more efficient. Set up data pipelines from other services.

Tool used (Development tools - H/w, S/w) : SQL, Python, APIs, Excel, Power Bi, PowerPoint

Objectives of the project : Risk Evaluation of clients, Visibility of MoM, YoY changes in financials and other metrics, Installing automated data pipelines, Automating various time taking procedures to increase efficiency & reduce human error.

Major Learning Outcomes : SQL, APIs, Python, Power BI, Functioning of NBFC companies, PnL tracking, Risk Evaluation & Mitigation, Automation

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : It was really fun interacting with the seniors, executives working at Udaan. It helped me gain valuable insights. As long as the work was done properly and in a timely manner, there were no issues. There was no micromanagement, I was able to learn and explore as much as I wanted. It was a good experience.

Academic courses relevant to the project : CP - Computer Programming, DRM - Derivatives & Risk Management

Name: AVIRAL SINGHAL(2020A8PS1780G)

Student Write-up

PS-II Project Title: Anchor Partnerships Intern

Short Summary of work done during PS-II : During my time at Udaan Capital, I've worked on many projects, especially handling data, making things automatic, and creating dashboards. I made data retrieval smoother, automated reports, and dealt with issues in tracking how well sales were going. I also helped with bringing in new customers and solving problems in sales. One big project was making a dashboard to see how well distributors were doing. I'm good at using tools like SQL, Excel, Power BI, and Python to understand and show data, helping us make smarter decisions. I made sure our data was safe and followed the rules while learning a lot about how numbers affect how businesses work. These experiences helped me get better with technology,

understand business better, and made me want to keep learning in the world of financial analytics. Overall, I've tried to make things work better, using tech and data to help Udaan Capital make smarter choices.

Tool used (Development tools - H/w, S/w) : SQL, Jupyter Notebook, Python, Google sheets, Excel, Google's Looker Studio, Power BI

Objectives of the project : The objectives of your internship at Udaan Capital were to harness and apply data-driven insights, streamline operational processes, and enhance strategic decision-making across various financial initiatives.

Major Learning Outcomes : Through diverse projects at Udaan Capital, I've become skilled in retrieving data, automating tasks, and crafting dashboards, demonstrating proficiency in SQL, Excel, Power BI, and Python. I've refined abilities in analyzing financial metrics, aiding stra

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : At Udaan Capital, the atmosphere is dynamic and collaborative, fostering innovation and growth. The company values proactive problem-solving and encourages a continuous learning mindset. Expectations revolve around delivering high-quality work with a focus on accuracy and efficiency. The company culture emphasizes teamwork, creative thinking, and a drive to contribute meaningfully to the organization's success.

Academic courses relevant to the project : Fundamentals of Finance and Accounting

Name: RISHIT THAKUR(2020A8PS1783G)

Student Write-up

PS-II Project Title: Incubation of WonderMart

Short Summary of work done during PS-II : Created and managed the communications sent by Wondermart (The B2C groceries app of Udaan) to its users on a daily basis along with analysing the cohort segments to get better insights on three major parameters pertaining to an increase in orders. Apart from that assisted with enhancing and expanding the inventory of the app by adding over 400 grocery items and assisted with creating forecast models for the fresh inventory.

Tool used (Development tools - H/w, S/w) : Excel , SQL , PowerBI , Moengage , Infobip, R

Objectives of the project : - Improving the efficiency of the communications sent by Wondermart in the form of Push Notifications and WhatsApp. Along with expanding the inventory of the app in order to offer the customer a wider experience

Major Learning Outcomes : SQL , Excel , Presentation and interpretation of graphs

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Since the app was still in its incubation stage

Academic courses relevant to the project : Probability and statistics

Principal of Economics

Business Communication

Name: SNEHA SANJIV PATIL .(2020ABPS1832P)

Student Write-up

PS-II Project Title: Buying process in home and kitchen, price benchmarking in home and kitchen category at Udaan

Short Summary of work done during PS-II : Managed inventory accumulation, managed Purchased order

Tool used (Development tools - H/w, S/w) : Excel

Objectives of the project : Smooth flow of inventory, pricing strategy

Major Learning Outcomes : Operations, inventory management, workflow understanding

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good working environment, but not meet the expectations, like not learnt alot as expected, less work experience

Academic courses relevant to the project : Supply chain management

PS-II Station : Unity Growth Fund LLC , Wilmington

Faculty

Name: Rekha A

Student

Name: MOHAN VIVEK(2020A3PS1450G)

Student Write-up

PS-II Project Title: Market Research

Short Summary of work done during PS-II : Initially was part of web design team to develop and host the portal, designing content and creating investor decks

Tool used (Development tools - H/w, S/w) : Figma canva notion

Objectives of the project : Creative solutions for enhancing customer experience and market research for investors

Major Learning Outcomes : Learnt about functioning of corporate and research into various high growth pre ipos

Details of Papers/patents : Na

Brief Description of working environment, expectations from the company : Remote work, not much interaction with employees other than work mostly status checks with mentor

Academic courses relevant to the project : POM, DRM

Name: AMITH RAJESH ARIKKAT .(2020A4PS1866P)

Student Write-up

PS-II Project Title: Web developer

Short Summary of work done during PS-II : In my role enhancing the company's investment portal, I played a key part in advancing user experience and refining functionality. Notable improvements include the introduction of the ability for users to modify their investment amounts post-signing agreement documents, offering greater flexibility. I also conducted a thorough overhaul of the support query system, ensuring smoother and more responsive user interactions. To boost user engagement, I implemented a Language Model (LLM) based chatbot, providing efficient responses. The login page underwent a transformation, now featuring dynamic elements that can be remotely controlled via a separate website, allowing for customization and heightened security. Delving into the infrastructure, I restructured the documents tab for improved accessibility and navigation. Administrators now benefit from an enhanced investment history

tracking system, offering comprehensive insights. Additionally, I integrated new metadata for each document upload, optimizing data organization and retrieval. A significant portion of my efforts focused on rigorous testing and bug fixes, ensuring a reliable user experience. This comprehensive approach aimed at enriching the platform's features while fortifying its overall reliability and performance.

Tool used (Development tools - H/w, S/w) : Next.js, Loopback 4, MySQL, EC2 instance, VS code

Objectives of the project : To improve the investment portal and add new features to improve user experience.

Major Learning Outcomes : I learnt a lot about web development, such as new frameworks such as Next.js, Loopback 4 and about databases. I also learned about web hosting and LLMs.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The working environment played a crucial role in facilitating a continuous learning experience. I gained substantial knowledge in web development within this collaborative setting. Team discussions and brainstorming sessions provided a platform for knowledge exchange, troubleshooting, and insights from experienced colleagues. The open communication culture encouraged seeking guidance and asking questions, fostering an environment where learning was a collective effort. The company's commitment to professional development was evident through accessible workshops, training programs, and resources. This support enabled me to explore various aspects of web development, embracing new technologies and methodologies. The encouraging atmosphere extended to project experimentation. Empowered to take on diverse projects and explore innovative solutions, I had the opportunity to apply and test my growing knowledge in practical scenarios. This hands-on approach significantly contributed to my overall growth in the field.

Academic courses relevant to the project : Web development

PS-II Station : UST Global- Trivandrum , Thiruvananthapuram

Faculty

Name: Sindhu S

Student

Name: AMOGH SINHA(2019B2A40898G)

Student Write-up

PS-II Project Title: Creating a Conversational AI for insurance companies using NLP

Short Summary of work done during PS-II : The objective of this project was to develop a conversational generative AI system that assists insurance operators in answering client questions, addressing the challenge of providing quick, accurate, and consistent responses to client queries. By giving insurance agents rapid access to policy facts and paperwork, this AI-driven system improves client satisfaction by interpreting insurance documents and client interactions using Large Language Model (LLM) technology. In a cutthroat market, this project provides insurance firms with a game-changing tool to boost agent performance and customer service.

Tool used (Development tools - H/w, S/w) : Google Colab, Python, Pytorch, LLMs

Objectives of the project : The objective of the project was the development of an Insurance Chat Bot designed to interpret and respond to inquiries from insurance documents using Language Model (LLM) technology. The goal is to improve customer access to insurance information and support

Major Learning Outcomes : I learned the concepts of LLMs and the process of fine tuning them using custom datasets. I learned the process of data preprocessing of datasets. I also learned about APIs and their working

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : The working environment was very friendly. Everyone was extremely accomodating and were eager to help to us learn. It was enlightening since everyone was an expert in their field and working with them was a valuable experience.

Academic courses relevant to the project : FDS, Machine Learning

Name: SIDDHARTH RATHI(2019B2A80730G)

Student Write-up

PS-II Project Title: FMCG Project

Short Summary of work done during PS-II : In my Data Science FMCG project, I conducted extensive data analysis and modeling to enhance decision-making processes within the fast-moving consumer goods sector. The primary focus was on developing and implementing accurate demand forecasting models for FMCG products. Leveraging machine learning algorithms and predictive modeling techniques, I honed my skills in deriving actionable insights from large datasets. This involved thorough data preprocessing and feature engineering to optimize model performance. The project underscored the importance of effective collaboration between data scientists and business stakeholders, emphasizing clear communication for successful implementation. Throughout the project, I navigated the complexities of the FMCG industry, addressing challenges related to market dynamics and product demand fluctuations. The hands-on experience not only deepened my technical expertise but also provided valuable insights into the practical applications of data science in optimizing operational processes and reducing production and distribution costs. The results of the project contributed to improved sales growth,

market expansion, and enhanced brand awareness within the FMCG market. Overall, the project was a dynamic learning experience that advanced my skills in data science, while also providing a comprehensive understanding of its real-world applications in the FMCG sector.

Tool used (Development tools - H/w, S/w) : Employed programming languages such as Python and R for data manipulation and analysis. Used libraries and frameworks including pandas, NumPy, scikit-learn, and TensorFlow for data preprocessing and machine learning. Implemented machine learning algorithm

Objectives of the project : Demand Forecasting, customer segmentation, Promotion and sales effectiveness, Market basket analysis, inventory management, supply chain management

Major Learning Outcomes : My Data Science FMCG project significantly advanced my skills in deriving actionable insights from large datasets. Through extensive analysis and modeling, I developed expertise in machine learning, predictive modeling, and accurate demand forecasting for

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The working environment for the Data Science FMCG project was collaborative, involving close teamwork with data scientists, business analysts, and FMCG stakeholders. The company expected the development of accurate demand forecasting models, emphasizing clear communication and proactive problem-solving to address challenges in the dynamic FMCG industry. Innovation and continuous learning were encouraged, reflecting the company's commitment to staying ahead in data science and industry trends. The overall focus was on using data-driven insights to optimize operations and contribute to the company's growth and competitiveness in the market.

Academic courses relevant to the project : None

Name: MAHIT GEOZU JAMES .(2019B2AB0921P)

Student Write-up

PS-II Project Title: Autonomous mobile Robot

Short Summary of work done during PS-II : My project revolved around Autonomous Mobile Robots (AMRs) and tackled the nitty-gritty of navigation issues. We dived into Simultaneous Localization and Mapping (SLAM) tech to help robots navigate dynamic environments. To amp things up, we hooked up microROS, a lightweight Robot Operating System for microcontrollers, making sure all robot parts could talk to each other efficiently. We didn't stop at the basics. We dug into complex navigation puzzles, using SLAM data to make our robot cruise tricky terrains all on its own. Going deeper, we got hands-on with embedded engineering, writing code for microcontrollers and coordinating sensors and actuators. The blend of SLAM, microROS, and embedded know-how turned out to be a game-changer, bringing us closer to making AMRs more capable and versatile in real-world scenarios.

Tool used (Development tools - H/w, S/w) : ROS2 humble , STM32Cube IDE ,platformio , MicroROS

Objectives of the project : Autonomous mobile Robot make two different kinematics ones.

Major Learning Outcomes : ROS2 humble , STM32Cube IDE ,platformio , MicroROS

Details of Papers/patents : nil

Brief Description of working environment, expectations from the company : The environment is very lenient and very accepting of new ideas and the student is encouraged to research and experiment new things in my department. Although the things we did and not did and the things we tried are expected to be documented very clearly.

Academic courses relevant to the project : Mechatronics , robotics and embedded engineering will help a lot in this project.

Name: JOEL JACOB VARGHESE(2019B4A80762G)

Student Write-up

PS-II Project Title: Creating a Conversational AI for insurance companies using NLP

Short Summary of work done during PS-II : The project involved researching and implementing various language models, including Bloom 3B and LLAMA 2. Challenges with storytelling nature were addressed, and a comprehensive dataset of questions and answers was generated. The project resulted in the successful development of an Insurance Chat Bot, showcasing high contextual accuracy.

Tool used (Development tools - H/w, S/w) : Development Tools: Bloom 3B, LLAMA 2, Hugging-face library, pdfplumber, GPT API, Google Colab, EC2 instance.

Objectives of the project : The project aimed to develop a Conversational AI system for insurance companies using NLP. Objectives included improving customer access to insurance information through a question-answering model and enhancing agent performance in responding to client queries.

Major Learning Outcomes : The project provided valuable insights into NLP, fine-tuning language models, addressing challenges in storytelling nature, and optimizing datasets for improved model performance. The student gained hands-on experience in developing AI-driven systems for

Details of Papers/patents : No specific papers or patents associated with the project.

Brief Description of working environment, expectations from the company : The student worked in a collaborative and supportive environment at UST Global. Expectations from the company included developing an innovative AI system to improve customer service, address document QnA challenges, and contribute to advancements in conversational AI.

Academic courses relevant to the project : N/A

Name: DARSHAN V SIMSON .(2019B5A40721P)

Student Write-up

PS-II Project Title: Building an NFT Marketplace

Short Summary of work done during PS-II : In the development of an NFT marketplace, I primarily focused on backend development, implementing RESTful APIs, facilitating seamless communication between the frontend and backend components. And also implementing key features such as the minting functionality. This involved creating and deploying smart contracts using Solidity and utilizing Hardhat for testing and deployment within the Ethereum ecosystem specifically on sepolia TestNet. I also engaged in frontend development using HTML, CSS, and JavaScript, with React.js for a dynamic and user-friendly interface.

Tool used (Development tools - H/w, S/w) : React.js , Node.js , Solidity , Hardhat , MongoDB ,

Objectives of the project : The project was tailored for an animation company, intending to develop a secure NFT marketplace that showcases their products.

Major Learning Outcomes : Gained hands-on experience in creating, testing, and deploying smart contracts using Solidity and Hardhat. Enhanced skills in frontend development using HTML, CSS, and JavaScript, along with React.js. Learned RESTful APIs for seamless communication between

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : The company had a flexible and supportive working environment. The mentors here are friendly and always ready to help. They had a professional working environment with healthy work - life balance.

Academic courses relevant to the project : None

Name: AKSHIT SINGH KATHAIT .(2019B5A40746P)

Student Write-up

PS-II Project Title: Data Science - Retail (FMCG sector)

Short Summary of work done during PS-II : For my project ; Made machine learning model for various task like customer recommendation ; customer segmentation etc to improve the efficiency of same task . Also learnt power bi and web-development for making dashboard for customer recommendation model .

Tool used (Development tools - H/w, S/w) : Anaconda ; Jupyter Notebook ; PowerBi ; NodeJS ; Bootstrap

Objectives of the project : Implementing data science and machine learning to improve the function / efficiency of a retail firm (particularly fmcg products)

Major Learning Outcomes : Python (Numpy / Pandas etc) ; Machine learning ; PowerBi ; Web Development

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : Work environment is professional . The company gives you a lot of freedom ; right from choosing your project to the work you do . The work is not hectic and mentors are helpful .

Academic courses relevant to the project : Manufacturing management ; Supply Chain Management ; Probability and Statistic

Name: CHANDRAGIRI VEDAANTA PRASAD(2020A3PS0487G)

Student Write-up

PS-II Project Title: Improving User Search Experience Using Generative AI

Short Summary of work done during PS-II : I improved my proficiency in Generative AI techniques, particularly in image captioning models, such as CNN and RNN and their architectures (transformers) and programming languages such as Python, along with frameworks like TensorFlow or PyTorch, for implementing machine learning models and integrating them into the existing platform infrastructure. WE sued Gen AI like image captioning and segmentation to improve efficiency for our use case. We also made a Website using Flask so Web development skills were developed.

Tool used (Development tools - H/w, S/w) : Google collab as the primary text editor for its graphic capabilities. VS Code as the secondary text editor. VS Code is one of the most powerful and efficient text editors available currently, with many handy plugins and extensions at its disposal. GitHub

Objectives of the project : The primary objective of the project is to create an AI-driven system capable of analysing an image of a desired product and extracting valuable information from it. This information should ideally include specifics such as the product's name, brand, specifications, features, and potentially where it can be purchased. By harnessing the potential of AI and image analysis, the project aims to bridge the divide between consumers' visual recognition of products and their ability to locate and purchase them.

Major Learning Outcomes : Learnt Web development skills, Deep Learning model architectures transformers, Teamwork

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Workspace was very good, Company has a good working culture, people are super helpful and understanding

Academic courses relevant to the project : Machine Learning, Deep Learning, AI, DSA, OOP

Name: DESHPANDE YASH RAHUL(2020A4PS1137G)

Student Write-up

PS-II Project Title: Improving User Experience in an eCommerce Website using Generative AI

Short Summary of work done during PS-II : The undertaken work involved in-depth exploration of machine learning concepts, including various algorithms, image captioning, and object detection models. Extensive research led to the selection and refinement of the Qwen model, integrated with the Grounding Dino object detection model for accurate image descriptions. A customized dataset was created through web scraping, fine-tuned with a focus on men's and women's clothing. Q-Lora was employed for efficient model finetuning. Rigorous testing of different models informed decisions, and the resultant Qwen model was implemented in a user-friendly Flask-based website.

Tool used (Development tools - H/w, S/w) : Google collab as the primary text editor for its graphic capabilities. VS Code as the secondary text editor. VS Code is one of the most powerful and efficient text editors available currently, with many handy plugins and extensions at its disposal. GitHub

Objectives of the project : The primary objective of the project is to create an AI-driven system capable of analysing an image of a desired product and extracting valuable information from it. This information should ideally include specifics such as the product's name, brand, specifications, features, and potentially where it can be purchased. By harnessing the potential of AI and image analysis, the project aims to bridge the divide between consumers' visual recognition of products and their ability to locate and purchase them.

Major Learning Outcomes :

The major learning outcomes include a comprehensive grasp of machine learning concepts encompassing various algorithms, image captioning, and object detection models. The ability to evaluate and select models based on criteria like accuracy and response

Details of Papers/patents : NA**Brief Description of working environment, expectations from the company :** The working environment is very good and supportive.**Academic courses relevant to the project :** Machine Learning, Deep Learning, Artificial Intelligence, DSA

Name: JOSEPH KURIAN(2020A4PS1632G)**Student Write-up****PS-II Project Title:** Blockchain NFT Marketplace**Short Summary of work done during PS-II :** We developed the smart contracts, tested and deployed them to the testnets and then we developed the full stack application from scratch.**Tool used (Development tools - H/w, S/w) :** Hardhat, Nodejs, Reactjs,**Objectives of the project :** To create an NFT Marketplace for an animation company to showcase and trade their NFTs**Major Learning Outcomes :** learnt proper DApp development**Details of Papers/patents :** none

Brief Description of working environment, expectations from the company : The working environment is good and the company does not stress you so much , it is very flexible, they dont keep strict timings you can come at any time and leave at any time only thing is that you have to keep 5 hrs worktime a day. There is pool basketball and a lot of fun stuff.

Academic courses relevant to the project : Cryptography

Name: VARAYURU PRANAVA SUKRUTHA(2020A8PS0695H)

Student Write-up

PS-II Project Title: Retail Customer Action Detection & Tracking using Computer Vision

Short Summary of work done during PS-II : During my PS-II internship, I focused on enhancing retail store surveillance using computer vision. I utilized YOLOv8, a real-time object detection algorithm, to detect and track three classes: person, trolley, and basket. Acquiring a dataset from Roboflow, I annotated over 1200 images for training. Implementing YOLOv8 in Google Colab, I fine-tuned the model for improved object detection. I also explored action recognition, using OpenPose for feature extraction and trained an MLP classifier to recognize customer actions like cart pushing, product picking, and dropping into the cart. The project aimed to improve surveillance and action monitoring in retail settings, enabling better inventory management and customer behavior analysis.

Tool used (Development tools - H/w, S/w) : S/w tools: Python, OpenCV, TensorFlow, and PyTorch. Platforms like Google Colab and Jupyter Notebook, OpenPose: Utilized for feature extraction from images. YOLOv8:object detection, and tracking, MLP Classifier: Used in action recognition for classifying

Objectives of the project : The objective of this project is to use real-time CCTV footage for tracking people's actions and detecting suspicious behaviour in retail stores using Computer Vision, improving sales.

Major Learning Outcomes : YOLO Object detection & Tracking, Action detection Classifiers, Openpose, Tensorflow

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment at the company was relaxed, allowing for flexible working hours and providing moderate exposure to tasks. Expectations were reasonable, not overly demanding, which created a comfortable atmosphere

Academic courses relevant to the project : -

Name: KOTA VENKATA KRISHNA SURYA(2020A8PS1139G)

Student Write-up

PS-II Project Title: Improving User Search Experience Using Generative AI

Short Summary of work done during PS-II : 1. Created a base dataset (from the client's e-commerce site) for all the models which we will be using. 2. Implemented Reverse Image Search using RESNET-50 and shortest path algorithms. 3. Fine-tuned image captioning model (Qwen-VL) using the custom dataset. 4. Implemented segmentation models, Grounding Dino and SAM and used them for frontend. 5. Built a frontend using flask on top of all the 3 models which were discussed above.

Tool used (Development tools - H/w, S/w) : Google collab, AWS ec2 instance, Git, Python, Catalogue API, Tensorflow, Pytorch, Huggingface, ResNet-50, VGG-16, MiniGPT-4, Qwen-VL, Grounding Dino, SAM, Flask

Objectives of the project : The problem involves a scenario where one is looking at a product, and is interested in purchasing it, but he/she sometimes might not know what it is called, or which brand it belongs to, or they might want to get the exact same product but don't know how to search

it up. This is where modern technology, and latest advancements in AI come into play. Using open source tools like MiniGPT-4, it is now possible to generate information about an image, and use that information according to our needs. The primary objective of the project is to create an AI-driven system capable of analysing an image of a desired product and extracting valuable information from it. This information should ideally include specifics such as the product's name, brand, specifications, features, and potentially where it can be purchased. By harnessing the potential of AI and image analysis, the project aims to bridge the divide between consumers' visual recognition of products and their ability to locate and purchase them.

- Major Learning Outcomes :**
1. Working with LLMs & LSTMs.
 2. Working with Image captioning models like Qwen-VL & MiniGpt-4.
 3. Creating datasets using available APIs.
 4. Working with remote GPU machines (AWS ec2 instance).
 5. Working with CNN models like ResNet-50, VGG-16.
 6. Worki

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : The company fosters a relaxed and supportive working environment where the emphasis is placed on personal growth and collaboration. Deadlines are flexible, allowing individuals to manage their time effectively and work comfortably. Our mentors are not only approachable but also enthusiastic in helping you incase of roadblocks.

In this environment, innovation and creativity are highly encouraged. Team members are welcomed to bring forth new ideas, fostering a culture where diverse perspectives are valued. The Manager and the HR are friendly and approachable, making it easier to discuss potential improvements.

Overall, the company promotes a positive learning experience by providing a conducive atmosphere for professional development and growth. Employees are encouraged to explore their full potential while being supported by a team that values individual contributions and teamwork. The only expectation they have from you is that you carry out your responsibilities given to you.

Academic courses relevant to the project : ML, DL

PS-II Station : Utourizmo , Noida

Faculty

Name: Gaurav Nagpal

Student

Name: DAKSH ASWAL .(2019A5PS1105P)

Student Write-up

PS-II Project Title: Social Media Tracking tool

Short Summary of work done during PS-II : We created an internal tool for social media tracking of U-tourizmo and their influencer accounts in 3 months and added new features to it while enhancing our performance

Tool used (Development tools - H/w, S/w) : Figma, React

Objectives of the project : To create an internal tool for social media tracking of U-tourizmo and their influencer accounts

Major Learning Outcomes : Figma,

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great company in the tourism space, culture was fine but don't expect lenient working hours like big MNCs. A lot of opportunity to learn and explore

Academic courses relevant to the project : NA

PS-II Station : V7EVEN Infotech Pvt. Ltd. , Jaipur

Faculty

Name: Sandeep Kayastha

Student

Name: PRATUL GARG(2020A1PS2092G)

Student Write-up

PS-II Project Title: Full Stack Web Development

Short Summary of work done during PS-II : During my web development internship, I was immersed in a dynamic learning experience. I collaborated with the team on front-end tasks, refining my skills to enhance website interactivity and responsiveness. Working closely with senior developers, I gained hands-on experience with popular frameworks like React and explored the intricacies of back-end development using technologies like Node.js. My tasks included debugging and troubleshooting, providing me valuable insights into the development process. I delved into database management, learning to manipulate data and ensure seamless interactions between the front and back end. As part of the team, I actively participated in UI/UX discussions, contributing to the design process and honing my eye for user-centric layouts. Throughout the internship, I engaged in version control using Git, understanding the importance of collaborative coding practices. Exposure to deployment processes and server configurations added a practical dimension to my skill set. I also delved into the basics of SEO and web security, recognizing their significance in creating robust, user-friendly websites. Overall, the internship provided a holistic view of web development, equipping me with a diverse set of skills for future projects.

Tool used (Development tools - H/w, S/w) : Frontend -React.js,XML,OpenUI5,Pure CSS,Jasper Databases-MongoDB,PostgreSQL Backend-Java,Javascript,Gradle,spring,springboot, API-Restful Services/API'S

Objectives of the project : ERP -Creating an erp site for keeping accountability 2)In house site redesign-legacy project renewing the old site to give a new look 3)Art Plataka-Creating an art website where people can buy posters and art of different sizes 4)Property Website/Real Estate-people can look after furnished and unfurnished even unfinished plots and buildings

Major Learning Outcomes : Production Code,SEO,Github Importance,documentation,clean code,new technologies of course like springoot,SAP UI5 etc which were new to me

Details of Papers/patents : Code was pushed directly into github so no papers or patents

Brief Description of working environment, expectations from the company : I learnt a lot firstly there were some issues but it got sorted afterwards and quiet some learning experience the only downside was there was not much support from company and expecting too much from low pay doesem.t give me a good impression but yes i learnt a lot during my time.

Academic courses relevant to the project : Web Development

PS-II Station : Vankal Agri Solutions Pvt. Ltd. , Jaipur

Faculty

Name: Gaurav Nagpal

Student

Name: KSHITIJ NANDWANA .(2019B2A11046P)

Student Write-up

PS-II Project Title: Banking Intern

Short Summary of work done during PS-II : During my internship at Vankal Agri Solutions Private Limited, I undertook a pivotal role as a Banking Intern, contributing significantly to the company's mission of financial inclusion and sustainable agriculture. My primary focus was on Business Correspondent activities, collaborating closely with regional rural banks, particularly Rajasthan Marudhara Gramin Bank (RMGB). I spearheaded the analysis of lead generation strategies, employing advanced analytics tools to evaluate their effectiveness. This analytical proficiency enabled me to provide valuable insights into the enhancement of these strategies. Concurrently, I coordinated training programs, ensuring the capacity building of new joiners for optimized performance. The strategic collaboration with RMGB was a highlight, where I actively participated in account opening, transaction facilitation, and the promotion of social security schemes in unbanked and underbanked regions. This experience enriched my understanding of banking operations, particularly in the context of rural communities. My project management skills were honed as I prepared comprehensive reports on the project's progress, presenting a holistic view of the financial inclusion initiatives. The ongoing efforts to extend this impactful model to Baroda Rajasthan Kshetriya Gramin Bank (BRKGB) showcased the scalability and potential of Vankal Agri Solutions' approach. This internship provided not only practical insights into the banking sector but also highlighted the critical role of financial inclusion in rural development.

Tool used (Development tools - H/w, S/w) : Excel, Tableau (S/w) | Morpho Device (H/w)

Objectives of the project : Enhancing financial inclusion

Major Learning Outcomes : Comprehensive Understanding of Financial Inclusion

Project Coordination and Management

Analytical Proficiency

Banking Operations

Details of Papers/patents : N.A.

Brief Description of working environment, expectations from the company : Vankal Agri Solutions Pvt Ltd offered a dynamic and collaborative working environment that fostered innovation and teamwork. The company's commitment to financial inclusion and sustainable agriculture created a purpose-driven atmosphere. The expectations from the company were aligned with its core values, emphasizing proactive participation in the mission of extending banking services to unbanked and underbanked populations.

The working culture encouraged independent thinking and the application of creative solutions to challenges. As a Banking Intern, the company expected a deep commitment to understanding the intricacies of rural banking and the dedication to contributing meaningfully to the financial inclusion initiatives. Clear communication, adaptability, and a proactive approach were valued traits in this environment.

The team's commitment to mentoring and capacity building allowed for continuous learning and growth. The expectation was not just to fulfil assigned tasks but to actively seek opportunities for improvement and contribute innovative ideas. The inclusive and supportive culture made it conducive to sharing ideas, asking questions, and learning from experienced professionals.

In essence, the company's expectation was not just for employees to perform their roles but to actively engage with the mission, understand the impact of financial inclusion on rural communities, and contribute towards the holistic growth of the organization.

Academic courses relevant to the project : Finance Minor Courses

PS-II Station : Vehant Technologies Pvt. Ltd. , Noida

Faculty

Name: Rajesh Kumar Tiwary

Student

Name: ANURAG BAJPAI(2019B3AA0530G)

Student Write-up

PS-II Project Title: Pedestrian Attribute Recognition (PAR)

Short Summary of work done during PS-II : Worked on application of Computer Vision and Deep Learning in the field of security and surveillance. Researched a wide variety of deep learning models such as CNNs and Transformer-based networks which make use of the convolution operation and attention mechanism respectively. Learned and applied multiple legacy and state-of-the-art methodologies for training various neural network architectures. Contributed to the organization by increasing the number of attributes for the model's prediction as well as improving the overall accuracy of the system. Also suggested multiple architectures for varying requirements alongside the proof of their efficacy on the dataset.

Tool used (Development tools - H/w, S/w) : Python, PyTorch, OpenCV, Python Imaging Library (Pillow), etc.

Objectives of the project : 1. To improve the performance of the multi-label classification system deployed for PAR. 2. To implement the vision transformer architecture and its variants utilizing the self-attention mechanism

Major Learning Outcomes : - Learned about self-attention mechanism which is at the core of modern Deep Learning architectures such as Transformers and Large Language Models (LLMs).
- Learned the major research advancements in the field of Computer Vision and the evolution of neural networks

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : The working environment is very relaxed and promotes learning and application of state-of-the-art methods. The managers as well as mentors are very supportive of learning and experimenting new research topics and ideas. The organization provides ample time and guidance for learning and catching up with the latest research in the domain.

The manager/mentors can be consulted either online or in-person for clearing any doubts regarding research topics or the work assigned.

The mentors are very understanding in case of any issues or emergency.

As the nature of my work was research, working under intense and high pressure situations was absent from my experience.

Academic courses relevant to the project : Deep Learning, Machine Learning, Digital Image Processing

Name: [ARYAN KOHLI\(2020A8PS1488G\)](#)

Student Write-up

PS-II Project Title: #rd party event injection

Short Summary of work done during PS-II : Contributed to company's backend codebase.

Tool used (Development tools - H/w, S/w) : C++, Linux, GDB

Objectives of the project : Receiving metadata of events from IP Cameras

Major Learning Outcomes : C++

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Good Environment and peer group. Work load is very much dependent on the team (ML and Development teams).

Academic courses relevant to the project : Object Oriented Programming, Data Structures & Algorithms, Operating Systems

PS-II Station : Viacom - DV Ad-Operations , Mumbai

Faculty

Name: Sandeep Kayastha

Student

Name: RISHABH PARMAR .(2020A7PS0309P)

Student Write-up

PS-II Project Title: Ad Operations

Short Summary of work done during PS-II : Campaign login on Vairo which was later pushed to the GAM ad server. Adjustment according to inventory forecast in terms of KPIs such as CTR, frequency etc. Pulling reports in order to judge campaign performance and possible need for optimization. Optimization included adjustment of impression allocation from changing targeting, pacing, priority or frequency of the campaign according to allowed changes.

Tool used (Development tools - H/w, S/w) : Google Ad Manager, Moloco, Vairo, Mixpanel, MS - Excel, JioAds

Objectives of the project : Campaign Management

Major Learning Outcomes : Campaign Deployment on OTT platforms. Streams of Revenue through the AVOD model for JioCinema.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Hybrid mode of work. Supportive team to help learn things, no proper training session held to introduce us to the

workflow. The team members expressed satisfaction in providing assistance and were forthcoming in facilitating introductions to other teams closely aligned with ours.

Academic courses relevant to the project : NONE

Name: SHAMIKA MITTAL .(2020A7PS1206P)

Student Write-up

PS-II Project Title: Data Analytics and Strategy

Short Summary of work done during PS-II : Did in depth analysis on various key changes in the company - including good and bad performance, new launches on the platform, predictions for new seasons of shows, etc.

Tool used (Development tools - H/w, S/w) : Mixpanel, Excel, PowerPoint, Last9, MUX, CleverTap

Objectives of the project : Understanding performance of the platform under various key metric using Analytics tools like Mixpanel, Last9, MUX

Major Learning Outcomes :

1. Understand how to measure performance.
2. Learning how to identify pain points and the steps that can be taken to fix them.
3. Learning how to use Mixpanel, Excel, and PowerPoint to extreme efficiency.

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : It's a media company so very chill working environment. The company expects proper work to be done and will most likely treat you like a normal employee with proper work and working hours.

Academic courses relevant to the project : -

Name: AKSHIT RATHI(2020A7PS2045H)

Student Write-up

PS-II Project Title: Revenue Analysis and Optimization in AVOD Wing of Jio Cinema.

Short Summary of work done during PS-II : Conducted comprehensive daily, weekly, and monthly revenue analyses for the AVOD Wing of Jio Cinema. Compiled TAM Digital Adex reports, providing strategic insights for competitor analysis. Implemented optimizations in revenue analysis processes, enhancing accuracy. Explored and integrated advanced analytics tools for data-driven decision-making. Collaborated with the ads operations team, contributing to a 15% increase in revenue accuracy.

Tool used (Development tools - H/w, S/w) : Software: Excel for data analysis and optimization. Collaboration tools: Mixpanel for data extraction, Google Ad Manager for inventory management. Advanced analytics tools: Python, Power BI for visualization.

Objectives of the project : To enhance daily revenue analysis processes. Implement optimizations for increased accuracy. Explore and integrate advanced analytics for strategic decision-making.

Major Learning Outcomes : Proficiency in revenue analysis and optimization techniques.

Application of advanced analytics in a real-world scenario.

Collaboration and communication skills in a professional setting.

Details of Papers/patents : No papers or patents at this stage; focus was on practical implementation and optimization.

Brief Description of working environment, expectations from the company : The working environment at Viacom 18 Media was dynamic and collaborative, fostering creativity and innovation.

Expectations included continuous learning, effective collaboration, and contributing to revenue growth.

Encouraged to explore and implement advanced analytics tools for enhanced insights.

The team emphasized open communication, allowing for valuable contributions and feedback.

Academic courses relevant to the project : Data Analytics and Visualization.

Business Intelligence and Decision Support Systems.

Marketing Analytics.

PS-II Station : Viacom (TPM) , Bengaluru

Faculty

Name: Sandeep Kayastha

Student

Name: ANUBHAV JINDAL .(2020A4PS1077P)

Student Write-up

PS-II Project Title: TPM (Intern)

Short Summary of work done during PS-II : The manual creation of Gantt charts using Excel for reporting purposes posed significant challenges in terms of time consumption, limited connectivity, and the inability to fulfill specific color requirements. The objective was to automate the Gantt chart creation process, ensuring efficiency and accuracy, and to incorporate milestone tracking. Initial attempts using Power BI proved to be limiting due to connectivity issues with

spreadsheets and challenges in automating color requirements. Consequently, a transition to Tableau was deemed necessary to overcome these limitations.

Tool used (Development tools - H/w, S/w) : Power BI, Jira, Tableau

Objectives of the project : Handling Data POD, Gantt chart Automation

Major Learning Outcomes : Tableau

Power BI

Jira

Communication skills

Standup meetings

Workplace Confidence

Leadership skills

Commercial understanding

Excel

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : My internship at Viacom18 Digital Ventures (JioCinema) has been an illuminating journey within the realm of technology and entertainment. Over the course of this internship, I had the privilege of working in the tech and product domain, closely collaborating with cross-functional teams, and contributing to projects aimed at delivering high-quality products to our audience.

My time at Viacom18 DV exposed me to the intricacies of Agile project management methodologies,

which are central to the organization's approach. Embracing Agile meant participating in iterative development cycles, daily stand-up meetings, backlog management, and retrospectives. These practices fostered transparency, collaboration, and adaptability, ensuring that project development

remained nimble and aligned with evolving needs.

Viacom18 Digital Ventures is a dynamic entity within the entertainment industry, driven by a

commitment to harnessing technology and innovation to deliver captivating content experiences.

This

domain of work has provided me with a firsthand understanding of how technology and content converge to redefine the future of entertainment

Academic courses relevant to the project : None

Name: ANUKARSH SAXENA(2020A4PS1869G)

Student Write-up

PS-II Project Title: Live Incident Management

Short Summary of work done during PS-II : I was assigned to the Technical Program Manager team which works with the Product and Engineering team making sure they are on the same page. They make sure the Engineering team understands the requirements and deadlines set by the Product team. My responsibility was to help with the daily management of all the various pods present at JioCinema. I also had a specific project with Live Incidents Management where I had to make the system more efficient and improve issue tracking. I created a variety of filters and dashboards to track these issues and many automations.

Tool used (Development tools - H/w, S/w) : Jira, Slack, PagerDuty, Sheets, Apps Script

Objectives of the project : Aim of the project is to increase the Efficiency and Tracking ability of the Project of Live Incidents Management on Jira .

Major Learning Outcomes : Domain knowledge acquired:

- 1)Jira-> Agile, Scrum, Kan Ban and JQL.
- 2)Management-> Daily Standups, Reports
- 3)PagerDuty

Skills acquired:

- 1)JQL
- 2)Gantt Charts
- 3)Rocks and Pebbles
- 4)Dashboards

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Most of my work happened remotely from my home. Most of my interaction happened online as my team also worked from home. They expected me to be available near my laptop on all weekdays and some Saturdays. They could reach out to you anytime. But, all the managers were very understanding if I was caught up with something else as long as the work was over by the date you promised. Due to the online nature of my work wasn't able to fully understand the work environment. All managers were very approachable but very busy, so it took some time to block some time with them. They tried to make you feel involved as much as possible however we interns did lack some of the technical knowledge which prevented us from helping them in various tasks.

Academic courses relevant to the project : POM

PS-II Station : Viacom DV Business Planning , Mumbai

Faculty

Name: Sandeep Kayastha

Student

Name: SUHANI KANWAR .(2020D2PS1292P)

Student Write-up

PS-II Project Title: Business Planning & Operations for Jiocinema

Short Summary of work done during PS-II : I played a pivotal role in the business planning team at Jiocinema, where I collaborated with both the AVOD (Advertisement Video on Demand) and SVOD (Subscription Video on Demand) teams. Our competitive analysis relied on data provided by Ormax and Data.ai. Ormax supplied comprehensive insights into the overall OTT landscape, while Data.ai furnished us with month-on-month data for various competitors such as Hotstar, SonyLiv, and Netflix, encompassing metrics like unique viewers, watch time, daily and monthly active users, downloads, among others. To distill actionable insights, we leveraged Mixpanel metrics to track user journeys, employing funnel metrics to decode platform strategies. I delved into tech-based tools like Appsflyer, Karix, AWS, and GCP for monitoring digital infrastructure costs. Additionally, I managed payment gateways including Amazon IAP, Phonepe, PayU, and RazorPay, maintaining meticulous gross collection and revenue records. Utilizing Power BI and Tableau, I created dynamic dashboards to visualize and analyze data effectively. The focus extended to tracking organic and inorganic user growth, detailed viewership metrics for individual shows, and strategic evaluation of the platform's performance.

Tool used (Development tools - H/w, S/w) : MS Excel, MS Power Point, Mixpanel, Power Bi, Tableau, Appsflyer, Karix, Google Cloud Projects, AWS, Amazon IAP, Razorpay, PayU, PhonePe

Objectives of the project : 1. Competitive Analysis: Analyze month-on-month Jiocinema performance against other OTT platforms and optimize for jiocinema's growth parameters like MAUs (Monthly Active Users), Watch Time, Downloads etc. 2. Cost Reporting: Develop a digital infra-tech-based cost reporting system for JioCinema. 3. User Engagement: Use Mixpanel for real-time user engagement metrics. 4. Weekly Reporting: Set up a weekly reporting system for JioCinema. 5. Payment Reporting: Create an integrated payment gateway reporting system for tracking gross collection & revenue numbers. 6. Dashboard Creation: Establish a Power Bi and Tableau dashboard system for JioCinema. 7. User Trends: Conduct a detailed study of user trends.

Major Learning Outcomes : 1. Understanding the OTT Industry: Gain comprehensive knowledge of the operations and dynamics of the Over-the-Top (OTT) industry. 2. Excel Proficiency: Develop advanced skills in using Excel for data management and analysis. 3. Data Analysis: Master the

Details of Papers/patents : None

Brief Description of working environment, expectations from the company :

I had an exceptional experience collaborating with the entire business planning and operations team. During my time, I acquired a diverse set of technical and professional management skills, gaining proficiency in all the software tools mentioned earlier. The work culture was excellent, fostering a positive and supportive environment. The entire team demonstrated a high level of support and helpfulness, contributing to a rewarding and enriching professional journey.

Academic courses relevant to the project : Funda of Fin and Accounting, Business analysis and valuation, business communication, marketing research, financial management, global business technology & knowledge sharing

PS-II Station : Viacom DV Content Planning , Mumbai

Faculty

Name: Sandeep Kayastha

Student

Name: PATHURI CHARITH GOUD(2020A1PS2412H)

Student Write-up

PS-II Project Title: Inventory requests and Python Dashboard

Short Summary of work done during PS-II : Main task was to make and update python dashboards, respond to inventory requests sent by sales team, use Power Bi and Looker Studio to make detailed reports about our KPIs.

Tool used (Development tools - H/w, S/w) : Python, PowerBi, Google Ad Manager, Mixpanel, Looker Studio, Microsoft Excel, Data.ai, ComScore.

Objectives of the project : To provide insightful data to sales team and shareholders of the company.

Major Learning Outcomes : Using data analysis techniques to build a python dashboard.

Details of Papers/patents : None.

Brief Description of working environment, expectations from the company : The working environment was very friendly. Everyone at the company were very helpful from the start.

Academic courses relevant to the project : Machine Learning, Artificial Intelligence, Data Mining.

PS-II Station : Viacom DV Sales Planning , Mumbai

Faculty

Name: Sandeep Kayastha

Student

Name: ANURAAG WANGE(2020A4PS1200G)

Student Write-up

PS-II Project Title: Analysis of kpis, automating reports and creating visualisations to track post ad delivery data

Short Summary of work done during PS-II : I was responsible for creating reports, automating them and delivering them to key stakeholders in the company. I was responsible to analyze data, generate insights and report it to my supervisors with my observations and suggestions.

Tool used (Development tools - H/w, S/w) : Mixpanel, Advanced Excel, Google ad manager,voiro, communication, result oriented approach

Objectives of the project : To build comprehensive, easy to understand, automated reports containing dashboards for overall platform and revenue analysis.

Major Learning Outcomes : I got to learn how data is analyzed at a senior management level and what are the different metrics used in an online streaming business. It was an opportunity to learn how KPIs are correlated to generate insights and develop strategies.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment. Supervisors are very helpful and guide in case of any difficulties.

Academic courses relevant to the project : Business communication, Finance courses

PS-II Station : VINJEY Software Systems Pvt. Ltd. , Bengaluru

Faculty

Name: Satya Sudhakar Yedlapalli

Student

Name: Andrew Alex Devasia(2020A7PS1314H)

Student Write-up

PS-II Project Title: Optimized radix-2 FFT routines for Renesas RX Architecture

Short Summary of work done during PS-II : Developed optimal assembly functions for Renesas RX microcontroller, spanning 3 ISA and 2 microarchitecture variants. Contributed to the company's FFT library, adding efficient variants of radix-2, radix-4 FFT routines that effectively manage register pressure. Implemented profiling hooks, leveraging the timer peripheral for precise performance analysis. Translated fixed-point and floating-point audio codec algorithms from MATLAB to optimal C and assembly on the target architecture (RX, RISC-V). Used the simulator and hardware to benchmark and estimate space-time tradeoffs.

Tool used (Development tools - H/w, S/w) : MATLAB, Renesas RX microcontrollers, ARM, RISC-V

Objectives of the project : Optimized audio codec routines written in C and Assembly

Major Learning Outcomes : Computer Architecture, Computer Arithmetic, Performance Engineering

Details of Papers/patents : N/A

Brief Description of working environment, expectations from the company : Proficiency in C Programming, Computer Architecture concepts, Signals and Systems, Digital Signal Processing Fundamentals, microcontroller boards. Understanding of how codecs work and performance tradeoffs involved.

Academic courses relevant to the project : Computer Architecture, Signals and Systems, Digital Signal Processing

Name: PATEL TANMAY CHETAN(2020A7PS1368G)

Student Write-up

PS-II Project Title: Radix2 DIT FFT in RISC-V Assembly

Short Summary of work done during PS-II : To code a FFT algorithm in RISC-V Assembly and beat O3 compiler inn instructions count.

Tool used (Development tools - H/w, S/w) : Beagle-V Ahead Board . C/RISC-V Assembly , Linux

Objectives of the project : To code a FFT algorithm in RISC-V Assembly and beat O3 compiler inn instructions count.

Major Learning Outcomes : Assembly programming improved a lot
I learned signals and systems as a Computer Science Student

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : . Experimental in nature. Less than 5 employees. Good working environment. Nice location of the office in a residential area.

Academic courses relevant to the project : CP , Signals and Systems, Computer Architecture

PS-II Station : Visit Health Private Limited , Gurugram

Faculty

Name: Gaurav Nagpal

Student

Name: ARYAMAN JOSHI(2020A4PS1902G)

Student Write-up

PS-II Project Title: maintenance and development of corporate data pipelines using MySQL and Python

Short Summary of work done during PS-II : • Worked on a project creating a dynamic utilization report on Google Sheets , utilizing a Python script interfacing with MySQL and the Google Sheets API. Enhanced existing reports on Google Data Studio with additional relevant data. • Conducted in-depth research on corporate data pipelines , proactively identifying and resolving data inconsistencies through MySQL queries . Managed onboarding and deonboarding processes for users and corporate clients , addressing active user queries via support tickets . Facilitated the onboarding of new/renewed policies and benefits using Postman API . • Collaborated seamlessly with the app development team to set up, test, and successfully launch engaging app-based challenges , including quizzes , crosswords , and step-a-thons , promoting user interaction and participation .

Tool used (Development tools - H/w, S/w) : MySQL, Python, Google Looker Studio, Microsoft excel

Objectives of the project : research on corporate data pipeline, onboarding and deonboarding processes for users and corporate clients, launch engaging app-based challenges

Major Learning Outcomes : Data mining, data cleaning, ETL processes, data extraction and data visualization

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : great working environment, all were very helpful especially team i worked with. i only expect the company to grow in the future and wish them best.

Academic courses relevant to the project : -

PS-II Station : Voicegain (Resolvity Inc.) , Texas

Faculty

Name: MONALI TUSHAR MAVANI

Student

Name: RISHABH SINGHAL(2019B1A30876P)

Student Write-up

PS-II Project Title: CI/CD Development

Short Summary of work done during PS-II : As part of the internship, pivotal work was carried out in CI/CD development, encompassing tasks in frontend enhancement and integration of machine learning and data analytics projects. The experience provided exposure to the intricacies of CI/CD processes, reinforcing skills in frontend technologies like React and JavaScript while delving into machine learning and data analytics for comprehensive project delivery.

Tool used (Development tools - H/w, S/w) : For ML & Data Analytics based projects Python and various python packages were used. For frontend, a suite of software tools, including React, JavaScript, Git for version control, and other frontend development tools were used.

Objectives of the project : Undertake a range of projects spanning web data acquisition, API testing, game development, chatbot integration, and extension tool creation

Major Learning Outcomes : Gained proficiency in CI/CD processes, enhanced frontend development skills, and explored the intersection of machine learning and data analytics in a real-world setting.

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Working from home, the company valued regular and dedicated effort, emphasizing progress over strict work hours. There was a clear expectation to learn new technologies with flexibility, as long as reasonable progress was made daily. In the startup environment, the small team fostered collaboration and mutual support, and everyone played a role in contributing. Management and my mentor were supportive, helping me overcome challenges. The overall atmosphere encouraged learning and teamwork, creating a positive and dynamic remote work environment.

Academic courses relevant to the project : Computer Programming, Operating Systems, Object Oriented Programming,

PS-II Station : Voicegain (Resolvity Inc.) , Texas

Faculty

Name: MONALI TUSHAR MAVANI

Student

Name: VEDANT NEGI(2019B2A80917G)

Student Write-up

PS-II Project Title: Large Language Models

Short Summary of work done during PS-II : Using LLMs

Tool used (Development tools - H/w, S/w) : Langchain, Python

Objectives of the project : Working with large language models to process data as per need and requirements

Major Learning Outcomes : Learning how to tweak prompts for LLMs

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Good

Academic courses relevant to the project : Not necessary

PS-II Station : Whatfix Private Limited , Bengaluru

Faculty

Name: Sidharth Mishra

Student

Name: POTLADURTHY VAISHNAVI(2020A4PS1967H)

Student Write-up

PS-II Project Title: Integrated Strategy Development

Short Summary of work done during PS-II : have been working on the data analysis part entitled with various industries for the opp revival focus, and opp based use case analysis

Tool used (Development tools - H/w, S/w) : GSheets, Salesforce, Pardot, Demandbase, Outreach, Lokerstudio, PowerBI, LinkedIn Sales Navigator

Objectives of the project : We as campaign/enterprise marketing team implement multi-channel strategic campaigns that utilise consistent core messaging in order to enhance brand awareness and generate leads across various marketing channels. This entails the development of campaign strategies, formulation of messaging for different communication channels, establishment of accounts and lists, and fostering collaboration across teams to facilitate the implementation and evaluation of campaigns. The objective is to enhance the overall marketing outcomes for Whatfix, including increasing brand awareness, generating leads, creating opportunities, and generating sales pipeline.

Major Learning Outcomes : Industry Specific Campaigns

Campaign Strategy

Data Analytics

Prompt Engineering

Resource Management

Documentation

Demand/Lead Generation

Strategic Approach

Cross - Channel Integration

Resource Management

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : A great place to work, the people and the environment provided is absolutely fab.

Academic courses relevant to the project : Management, Marketing, Financial Analysis.

PS-II Station : William O Neil - Algorithm , Bengaluru

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SURANA YASH ABHAY .(2020A2PS0243P)

Student Write-up

PS-II Project Title: Data Analysis and Algorithmic Trading using Python

Short Summary of work done during PS-II : During the tenure at William O'Neil, the primary task involved delving into Python, SQL, and finance. The company provided comprehensive materials to facilitate a deep understanding of these areas. Initially, the focus was on grasping the fundamentals of Python, SQL, and financial concepts. The material had to be meticulously studied, absorbing knowledge and establishing a solid foundation. Subsequently, the transition was made to practical application by coding various trading strategies in Python, such as the Aroon, SuperTrend, and Bollinger Bands. This hands-on experience allowed them to refine their Python skills and grasp their practical use in finance. Moreover, it provided valuable insight into the application of technical indicators in trading scenarios. As they coded these strategies, a deeper understanding of their mechanics and their significance in financial analysis and decision-making was gained. Furthermore, they were entrusted with debugging and refining actual strategies used by William O'Neil, which further enriched their comprehension of Python in the context of financial markets.

Tool used (Development tools - H/w, S/w) : Jupyter Notebook, Jira, Factor Farm(Company specific), MS Excel

Objectives of the project : To apply Python, SQL, and financial knowledge for excellent performance in algorithmic trading, aiming for impactful contributions to the Quant sector.

Major Learning Outcomes : The remote work experience at William O'Neil yielded significant learning outcomes.

- 1) Extensive coding tasks enhanced proficiency in Python and SQL, crucial skills in the financial sector.
- 2) The flexibility of the work-from-home setup allowed for effe

Details of Papers/patents : No Papers/patents.

Brief Description of working environment, expectations from the company : During their remote work at William O'Neil, the focus primarily revolved around coding tasks, with extensive use of Python and SQL. The remote nature of the work allowed for a flexible schedule, offering ample time for individuals interested in studying for competitive exams. Meetings were held virtually almost every alternate day, providing opportunities for collaboration and progress updates.

Academic courses relevant to the project : Derivatives and Risk Management, Security Analysis and Portfolio Management, Python, Financial Management

Name: RAJ ARYAN(2020A2PS2444H)

Student Write-up

PS-II Project Title: Quantitative analysis

Short Summary of work done during PS-II : Worked on stock trading strategies using python and backtested it on historical data, implemented it using factor farm and created diversified portfolio

Tool used (Development tools - H/w, S/w) : Python pandas dataframes , basic statistics and coding

Objectives of the project : Unique trading strategies to deploy in the market using python algorithmic coding

Major Learning Outcomes : Algorithms, portfolio management, stock trading

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Good

Academic courses relevant to the project : Python, statistics

Name: AZHAAN AZAA ANVER .(2020A4PS0496P)

Student Write-up

PS-II Project Title: Quant analyst

Short Summary of work done during PS-II : In my current role at PS-II, I am actively involved in driving [specific project or task], focusing on [primary responsibilities, e.g., quantitative analysis or algorithmic trading]. My contributions include [highlight key tasks, e.g., coding, backtesting, and evaluating trading strategies] using advanced technologies. Key achievements involve [mention significant milestones, e.g., creating a robust algorithmic model] and actively participating in [collaborative aspects, e.g., team discussions and problem-solving sessions]. Navigating challenges, such as [mention specific challenges, e.g., algorithmic complexity], has honed my problem-solving skills. The experience has significantly enhanced my [mention technical skills, e.g., coding literacy, Python proficiency, and data analysis skills], making me more self-sufficient. Excited about the rich learning opportunities, I look forward to contributing further to ongoing projects and expanding my skills in this dynamic environment.

Tool used (Development tools - H/w, S/w) : Python

Objectives of the project : Quantitative analysis

Major Learning Outcomes : Coding ,Stock market

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : My primary focus lies in [mention primary responsibilities, e.g., quantitative analysis, algorithmic trading, or data-driven decision-making], where I play a pivotal role in [describe your role, e.g., developing, optimizing, and validating trading algorithms]. This involves a meticulous process of [mention key tasks, e.g., coding, backtesting, and evaluating trading strategies] using cutting-edge technologies and industry best practices.

Academic courses relevant to the project : DRM

Name: ABHIMANYU(2020A4PS1364G)

Student Write-up

PS-II Project Title: Algo Trading

Short Summary of work done during PS-II : Coding Indicator Strategies: Creating and putting into practice indicator-based trading techniques was the main goal of the first project. This entails developing algorithms that evaluate financial data and produce buy/sell recommendations for assets. The company's servers were used to code and implement these strategies. The second study focused on quarterly rebalancing and portfolio optimization through the use of effective frontier convex optimization techniques. This method helps choose the best combination of assets to optimize returns at a particular risk level. Periodic rebalancing on a quarterly basis guarantees that the portfolio will always remain allocated optimally.

Tool used (Development tools - H/w, S/w) : python, sql , jira, factor farm

Objectives of the project : design indicators and create portfolios

Major Learning Outcomes : Convex Optimization: Gaining proficiency in convex optimization techniques, specifically applied to portfolio optimization. This skill is crucial for achieving optimal allocation of assets to maximize returns while managing risk.

Algorithmic Trading Con

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Positive

Recognition:

Acknowledge the organization's commitment to innovation in algorithmic trading and quantitative finance.

Recognize the support provided for the implementation of advanced strategies, such as machine learning and convex optimization.

Efficient Collaboration:

Appreciate the collaborative environment within the organization, facilitating effective cross-functional teamwork.

Highlight the positive impact of the organization's support in overcoming challenges and achieving project milestones.

Academic courses relevant to the project : python,sql

Name: ANIRUDHA SHUKLA(2020A4PS1867G)

Student Write-up

PS-II Project Title: Quantitative Analyst

Short Summary of work done during PS-II : The PS2 internship at William O'Neil has been a pivotal experience, shaping my expertise in quantitative finance. Two significant projects involved coding indicator strategies and implementing portfolio optimization using machine learning and convex optimization. The milestones included data filtering, stock selection based on momentum

and volatility, machine learning model implementation, portfolio optimization, and daily Net Asset Value (NAV) calculation. The internship provided a platform to contribute to the organization by enhancing trading strategies, deploying them on servers, and calculating the daily NAV for real-time insights. Noteworthy achievements include the integration of the Quant Stats library for portfolio evaluation and the dynamic adjustment of features for optimal performance. Challenges faced and overcome involved high computation times and initial poor results, highlighting the importance of adaptability and problem-solving skills. The team, consisting of a manager and a collaborator from another campus, collaborated efficiently with a weekly timeline for project completion. This experience has laid a strong foundation in quantitative finance, incorporating machine learning, convex optimization, algorithmic trading concepts, and object-oriented programming. Future plans include entering the field of quantitative finance at the highest level, with an aspiration to start as a Quantitative Analyst. The learnings from the internship will be applied in future endeavors, and the decision to pursue an MBA in Quantitative Finance, including courses in machine learning, reflects a commitment to continuous education and professional development. Identified areas for improvement include addressing computation time challenges and refining the evaluation process of initial results, with suggestions

Tool used (Development tools - H/w, S/w) : Machine learning, jupyterhub, colab

Objectives of the project : Portfolio creation and indicators strategies for pipeline

Major Learning Outcomes : ML, finance

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : The PS2 internship at William O'Neil has been a pivotal experience, shaping my expertise in quantitative finance. Two significant projects involved coding indicator strategies and implementing portfolio optimization using machine learning and convex optimization. The milestones included data filtering, stock selection based on momentum and volatility, machine learning model implementation, portfolio optimization, and daily Net Asset Value (NAV) calculation. The internship provided a platform to contribute to the organization by enhancing trading strategies, deploying them on servers, and calculating the daily NAV for real-time insights.

Noteworthy achievements include the integration of the Quant Stats library for portfolio evaluation and the dynamic adjustment of features for optimal performance. Challenges faced and overcome involved high computation times and initial poor results, highlighting the importance of adaptability and problem-solving skills. The team, consisting of a manager and a collaborator from another campus, collaborated efficiently with a weekly timeline for project completion.

This experience has laid a strong foundation in quantitative finance, incorporating machine learning, convex optimization, algorithmic trading concepts, and object-oriented programming. Future plans include entering the field of quantitative finance at the highest level, with an aspiration to start as a Quantitative Analyst. The learnings from the internship will be applied in future endeavors, and the decision to pursue an MBA in Quantitative Finance, including courses in machine learning, reflects a commitment to continuous education and professional development. Identified areas for improvement include addressing computation time challenges and refining the evaluation process of initial results, with suggestions for both self-improvement and organizational recommendations to enhance skills and project planning. Overall, the internship has been a journey of growth, technical advancement, and preparation for a promising career in quantitative finance.

Academic courses relevant to the project : Finance Minor Machine learning python

PS-II Station : WILP - ADAS , Artificial & Computation , Hyderabad

Faculty

Name: Rajiv Ranjan Gupta

Student

Name: VANAMA BHASKARA SAI RUPESH(2019B5A40792G)

Student Write-up

PS-II Project Title: ADAS

Short Summary of work done during PS-II : Lane Detection and Vehicle Detection: • Implementation of Lane detection and object detection. • Testing the algos on Carla simulator and arduino based bot. • Serial communication efficiently established with pyserial. • Final testing on REVA with added time delay. Driver Management System (DMS): • Developed a Driver Posture recognition and alert system to ensure safety of the driver. • Used Roboflow for annotation of nearly 25000+ frames. • Custom made dataset trained on YOLOv5s as starting weights. • Total two models trained. Aviation Safety - FOD Detection: • Project focuses on addressing critical safety concerns in aviation. • Innovative interface developed using YOLOv5 and an RGB camera mounted on a vehicle. • Addresses labor-intensive and time-consuming manual FOD removal processes. • Enhances precision in detecting potential debris on airfields. • Prioritizes workforce well-being through automated FOD detection, revolutionizing aviation safety. • Visual approach achieved successfully. • Most detections with >40% confidence. • Challenges and future work include sensor fusion and increasing the accuracy to reduce false positives.

Tool used (Development tools - H/w, S/w) : Roboflow, Tensorflow, python, numpy, keras, openCV, pandas, etc;

Objectives of the project : working and developing ADAS technologies

Major Learning Outcomes : Working with adas features on an electric vehicle and using LIDAR and camera

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : good working environments, no work pressure. can learn on your own speed.

Academic courses relevant to the project : basic mechanical and Coding

PS-II Station : WILP - Control systems,IC Engines, RSM , Hyderabad

Faculty

Name: Naga V K Jasti

Student

Name: TANUSHRI TRIPATHI .(2019B4A40617P)

Student Write-up

PS-II Project Title: Hydrogen Fuel Cell, Wiper Motor Control & Diagnosis, Traction Control System

Short Summary of work done during PS-II : Worked on integrating boost converter with Hydrogen fuel cell to increase and stabilise voltage output and used the resulting output to power different subsystems; Created models using Simulink and Arduino for wiper motor and traction control systems

Tool used (Development tools - H/w, S/w) : MatLab, Simulink, Arduino

Objectives of the project : Use Hydrogen fuel cell to power different automotive subsystems; Use Arduino and Simulink to create working model for wiper and traction control systems

Major Learning Outcomes : Learned to create models and projects using Simulink and Arduino, Learned about electric vehicles and fuels

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Working environment was relaxed; Mentors were helpful and understanding. Working days: Monday to Saturday

Academic courses relevant to the project : Automotive Vehicles; Engines, Motors and Mobility

Name: SUNJAY ROSHAN V(2020A4PS1855H)

Student Write-up

PS-II Project Title: Powering Systems Using Hydrogen Fuel Cell

Short Summary of work done during PS-II : Worked on Hydrogen Fuel Cell, powering systems using boosted voltage of a hydrogen fuel cell. Brake system error diagnostics using simulink. Automatic plant watering system

Tool used (Development tools - H/w, S/w) : Matlab Simulink

Objectives of the project : Hydrogen Fuel Cell

Major Learning Outcomes : Simuink Matlab Canva Drawio

Details of Papers/patents : none

Brief Description of working environment, expectations from the company : A good working environment, faculty were understanding and friendly and were able to guide us in all our work.

Academic courses relevant to the project : none

PS-II Station : WILP - IOT , Hyderabad

Faculty

Name: Rajiv Ranjan Gupta

Student

Name: RUSHIL PARIHAR(2020A3PS0443G)

Student Write-up

PS-II Project Title: AI ChatBot

Short Summary of work done during PS-II : The internship experience spanned over 5.5 months, during which the primary objective was to contribute to the growth and development of Chatbot. The internship involved structured weekly goals, from initial familiarization to advanced tasks, contributing via a systematic and organized approach. This report will describe testing and bug fixing, which were pivotal in developing the chatbot. The report also underscores the importance of Chatbot in simplifying complex data application development processes.

Tool used (Development tools - H/w, S/w) : S/w

Objectives of the project : Reduce Repeated Questions: Develop a chatbot to significantly reduce the occurrence of repeated questions from students, aiming for 0% repetition.

Major Learning Outcomes : Data APIs, NLP, web framework

Details of Papers/patents : No Patents

Brief Description of working environment, expectations from the company : WILP, BITS Pilani Hyderabad Campus

Academic courses relevant to the project : Machine Learning

Name: VENKATA ANIRUDH IRAGAVARAPU .(2020A3PS1783P)

Student Write-up

PS-II Project Title: Digital Image Processing and Development of Digital Twin

Short Summary of work done during PS-II : In the first project, a Raspberry Pi was employed to control a bulb and a DC fan circuit based on temperature readings from a DHT11 sensor. The system autonomously adjusted the environment by turning the bulb off and the fan on when the temperature exceeded the upper threshold, and vice versa for the lower threshold. Real-time temperature and humidity data were transmitted to the Azure cloud, with a user-friendly IoT Central application displaying the information. Additionally, data integration with Azure IoT Hub facilitated connectivity to Azure Digital Twin, enhancing the overall smart home system. The second project focused on Digital Image Processing applied to a microtool to estimate its wear and tear and predict its lifespan. Commencing with machine learning frameworks such as TensorFlow, Neural Networks, and Deep Learning, a dataset was constructed through 50 images captured at incremental milling durations. An OpenCV code calculated distances between points on the tool using a reference scale derived from the tool's diameter. A Convolutional Neural Network (CNN) was trained to classify images into categories of tool conditions: metal piece chipping, craters, and wear at the cutting edge, achieving an accuracy close to 70%. However, challenges were identified due to the relatively small dataset, highlighting the potential for increased accuracy with a more extensive and diverse image set. Further refinement and augmentation of the dataset could optimize the model's ability to discern subtle variations in tool wear, improving its overall predictive capabilities for tool lifespan estimation.

Tool used (Development tools - H/w, S/w) : Raspberry Pi,DHT11,Arduino,Google collab for CNN model

Objectives of the project : To analyze the wear and tear of the micro tool

Major Learning Outcomes : Deep Learning and Machine Learning

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : In the IIOT (Industrial Internet of Things) Lab, the first project involved coding a Raspberry Pi to control a bulb and a DC fan circuit based on temperature readings from a DHT11 sensor. The IIOT Lab provided a controlled environment for testing and implementing smart home automation functionalities. The integration with Azure cloud services, including IoT Central and IoT Hub for Azure Digital Twin connectivity, allowed for real-time monitoring and control of the environmental conditions.

For the second project, the working environment shifted to a workshop setting where milling experiments were conducted to simulate wear and tear on a microtool. Using a Vision Measuring Machine (VMM), images were captured at specific time intervals (30s, 1 minute, 2 minutes, 3 minutes, and 5 minutes) during the milling process at a precision of 50 micrometers. The workshop environment facilitated practical data collection, essential for training the Machine Learning model. The OpenCV code was developed to analyze the tool's images, measuring distances between points and using a scale calibrated with the tool's diameter. The subsequent development of the Convolutional Neural Network (CNN) model was performed on Google Colab, leveraging its cloud-based infrastructure for efficient training and model evaluation. This dynamic working environment allowed for the seamless integration of hardware experimentation, image capture, and machine learning model development, ensuring a comprehensive approach to the microtool wear estimation project.

Academic courses relevant to the project : Deep Learning
Machine Learning
IOT

Name: [SAYANTAN PATRA\(2020A4PS2297H\)](#)

Student Write-up

PS-II Project Title: Smart inventory management system

Short Summary of work done during PS-II : NA

Tool used (Development tools - H/w, S/w) : NA

Objectives of the project : NA

Major Learning Outcomes : IoT

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : NA

Academic courses relevant to the project : NA

Name: GANDHI POOJAN .(2020A8PS1541P)

Student Write-up

PS-II Project Title: Digital twin of a water bottling plant

Short Summary of work done during PS-II : A digital twin of a water bottling plant on Azure is a sophisticated virtual replica that mirrors the physical processes, assets, and operations of the actual facility. Leveraging Azure's cloud capabilities, this digital twin enables real-time monitoring, predictive analytics, and efficient management of the plant's entire lifecycle. The digital twin integrates IoT sensors and data streams to capture intricate details, from production line metrics to equipment health. Azure's robust platform ensures seamless connectivity and scalability, facilitating the aggregation of vast datasets for comprehensive analysis. Machine learning algorithms within the digital twin predict potential issues, optimizing maintenance schedules and minimizing downtime. Through Azure's data analytics tools, decision-makers gain actionable insights into production efficiency, energy consumption, and quality control. This digital representation enhances operational agility, allowing for rapid adjustments and improvements. Collaborative features on Azure enable cross-functional teams to collectively analyze and optimize processes, fostering innovation and continuous enhancement. Ultimately, the Azure-based digital twin for the water bottling plant serves as a dynamic, data-driven tool, enhancing

operational efficiency, reducing costs, and ensuring the sustainable and optimal performance of the facility

Tool used (Development tools - H/w, S/w) : Azure , Mysql, PowerBi, PLC

Objectives of the project : To make an azure digital twin of a water bottling plant

Major Learning Outcomes : Got to learn about Azure and it's ecosystem

Details of Papers/patents : None used

Brief Description of working environment, expectations from the company : WILP" often stands for "Work-Integrated Learning Program." This educational approach combines academic learning with practical work experience, creating a seamless integration between the classroom and the workplace. Typically offered by universities and institutions, WILP allows students to apply theoretical knowledge to real-world scenarios, gaining valuable skills and insights. The program often includes internships, co-op placements, or industry projects, offering students a chance to develop a deeper understanding of their field and enhance their employability.

However, it's essential to note that "WILP" may have different meanings in various contexts, so if you're referring to a specific organization, concept, or term introduced after my last update, please provide additional details for a more accurate response.

Academic courses relevant to the project : lot, IIC

PS-II Station : Yodaplus Technologies Private Limited , Mumbai

Faculty

Name: Chetana Anoop Gavankar g

Student

Name: SAHIL SHAH(2020A7PS0140P)

Student Write-up

PS-II Project Title: LLM R&D

Short Summary of work done during PS-II : Worked on developing input methods (data preprocessing before sending to the LLM), prompt engineering and output parsing (response post-processing into structured data)

Tool used (Development tools - H/w, S/w) : LangChain

Objectives of the project : To get reliable and appropriate answers from LLMs

Major Learning Outcomes : LLM Reliability is subject to domain knowledge of the particular LLM

Details of Papers/patents : -

Brief Description of working environment, expectations from the company : Friendly working environment, helpful colleagues, flexible timings. Importance on communication and target achievement more than formalities.

Academic courses relevant to the project : NLP

PS-II Station : Yugabyte , Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: PAYIDETI NAGA VENKATA SAI ROHITA(2019B2A71125H)

Student Write-up

PS-II Project Title: LDAP - YBDB Universe Sync

Short Summary of work done during PS-II : Two aspects covered during the internship involved an Intern Project - LDAP - YBA Universe Sync for YugabyteDB Anywhere, Support Azure AD Workload Identity for Azure Provider, and solving various bugs to improve the existing product. The intern projects were formulated after receiving several customer requests, and sometimes just a few enhancements proposed by the team lead. It involves assigning a user-assigned managed identity to a VM as a credential for accessing azure resources like keyvault. Feature and bug improvements were assigned to test rapid product development.

Tool used (Development tools - H/w, S/w) : Java play framework (web application framework)
• React JS (User Interface) • Swagger (API documentation) • Flyway (Edit existing relations in the Database) • Phabricator (Code review tool) • Jenkins (Testing)

Objectives of the project : Before LDAP can be used for authentication, the user must already exist in the database (and have appropriate permissions). This process of ensuring the user role exists can become quite labour-intensive for larger organisations. They would need to handle the manual creation of roles within the YBDB system whenever a new member becomes part of the organisation. Additionally, if any changes occur in the LDAP server, such as the addition or removal of a user from a specific group, these alterations must also be accurately mirrored in the corresponding roles within the YBDB platform. This manual synchronisation between LDAP and YBDB can pose challenges in terms of both time and accuracy, especially given the potential frequency of these updates. This project plans to expose a mechanism via YBA for syncing users/groups in the LDAP server to the roles in YBDB using YBA.

Major Learning Outcomes : →Got a more detailed picture of the YBA and its services.

→Learned to write a design doc.

→Enhanced my Java skills, Git commands, working of LDAP Server

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The company WLB mainly depends on the team you get allowed to. In my case, i.e' Im from YBA and my manager is very understanding and friendly. The company doesn't have fixed working hours, it all depends on one-self and sometimes according to the team. Work stress is decent enough, it just keeps us on track. Company expectations are not too over-the-hat, a cs student can easily get accommodated to the environment and tech-stack.

Academic courses relevant to the project : DBMS, OOPS, DSA

Name: DHRUV RAWAT .(2019B3A70537P)

Student Write-up

PS-II Project Title: Change Data Capture in YugabyteDB

Short Summary of work done during PS-II : Addition of new features to YugabyteDB CDC service and Debezium connector in YugayteDB. Fixing existing bugs present in code.

Tool used (Development tools - H/w, S/w) : C++, Java, Apache Kafka

Objectives of the project : To work on various features related to Change Data Capture service in YugabyteDB and the corresponding Debezium connector

Major Learning Outcomes : NoSQL Databases and Distributed Databases, Consensus algorithms

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Great working environment and helpful team members

Academic courses relevant to the project : Database Systems, Parallel Computing, Network Programming, Data Structures and Algorithms, Operating Systems, Object Oriented Programming, Cloud Computing

Name: NANDHINI R SHENOY(2019B3A70565G)

Student Write-up

PS-II Project Title: Performance testing and Active Session History

Short Summary of work done during PS-II : I was part of the Active Session History project. I implemented features like sampling of the queries, retrieval of table metadata and so on. Beyond that I also tested the ASH tool itself since it was a new tool and we needed to find its limitations and use cases. For this I also wrote workloads for specific cases and analysed results. Beyond this I also created some workloads for another feature called Sample Apps.

Tool used (Development tools - H/w, S/w) : SQL, CQL, Postgres, AWS, C++, Java, C, internal tools, GitHub

Objectives of the project : The purpose of the project involved developing methods of testing by way of which existing services and projects could be analyzed and picked apart for sectors that slowed or delayed them.

Major Learning Outcomes : Advanced CPP Concepts, Working with protobufs and automated files, NoSQL Databases and Distributed Databases were new to me. Beyond this, the project strengthened my theoretical knowledge of Database architecture, query life cycles and Development skills.

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Yugabyte is a great place to learn, with very skilled people with keen interest in their work. The work is interesting

and the people are friendly and helpful. My experience here was a good one, I learned a lot during the internship. Your work will also have a significant role in the company since it is still relatively small.

Academic courses relevant to the project : DSA, DBMS

Name: SHIKHAR SAHAY(2019B3A70798G)

Student Write-up

PS-II Project Title: Adding Support For Pre-Packaged Apps and Leader Pinning in Yugabyted

Short Summary of work done during PS-II : Initially I was assigned small GitHub issues. Minor bugs already existing in the product. After that I was given leader pinning as a project. I had to implement this feature in python and write the apis in Golang. After this I was given to implement point-in-time recovery in Yugabyted. This introduced me to the importance of backup/restore in distributed systems. Lot of assessment work was also given which helped me understand latency and IOPS in a database.

Tool used (Development tools - H/w, S/w) : Python, Go,Cobra Framework, Arcanist,Java,Voyager

Objectives of the project : The first project aimed at running real time workloads against YugabyteDB and measuring the IOPS and latency of the database. This gives the user a good understanding of resilience and fluency of the cluster. The second project aimed at providing fault tolerance capabilities in YugabyteDB through the command line tool and migration of tablet leaders to a particular node.

Major Learning Outcomes : Learnt about how important designing and vision is apart from implementation.

Delved deeper into python

Learnt about command line interface and how it is a very strong tool to run any application efficiently.

Learnt about various aspects of distributed sy

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : The quality of work given is very good. The projects given are feasible and with proper guidance and effort can be completed within the assigned time. They do not have unrealistic expectations from the intern. The impact we can create with our work is very high compared to other companies. Full independence and liberty is given while implementing a feature end to end.

Academic courses relevant to the project : DBMS,OS,CN

Name: Pranav Bansal(2019B5A71093H)

Student Write-up

PS-II Project Title: YugabyteDB Managed UI Development

Short Summary of work done during PS-II : During my PS-II internship, I played a pivotal role in advancing the frontend development of YugabyteDB Managed. Focused primarily on React, TypeScript, and Material UI, I spearheaded the enhancement of different features of the database management product. This involved addressing critical UI issues, optimizing code for improved performance, and incorporating advanced data visualization techniques. I worked on several projects as UI lead, assisted on some. One of project involved the integration of dynamic charts using Recharts and interactive maps powered by React-Leaflet. These additions not only improved the overall aesthetics of the feature but also provided users with an engaging and informative experience. The project required a deep dive into TypeScript syntax, enhancing my skills in writing type-safe and robust code. Throughout this journey, I actively collaborated with cross-functional teams, engaging in code reviews and leveraging mentorship opportunities. This collaborative environment not only fostered knowledge sharing but also fueled innovation and

creative problem-solving. The internship provided valuable insights into corporate culture and effective teamwork, shaping me into a more proficient and versatile software engineer. In recognizing self-identified skill gaps, I undertook initiatives to strengthen my understanding of TypeScript syntax, delve deeper into CSS styling for improved UI aesthetics, and enhance my ability to comprehend and extend previously written code. The experience not only met my expectations but exceeded them, leaving me well-prepared for future challenges in the realm of software engineering.

Tool used (Development tools - H/w, S/w) : H/w: M1 Macbook, S/w: VSCode, Git & Github, JIRA, npm

Objectives of the project : The objective of the project was to elevate the User Dashboard of a cloud database management application, enhancing its functionality and visual appeal. Key goals included addressing UI issues, optimizing code for improved performance, and integrating advanced data visualization features. The aim was to create a seamless and engaging user experience, aligning with Yugabyte's mission of revolutionizing how modern applications access and manage data.

Major Learning Outcomes : Advanced Frontend Development Skills: Strengthened proficiency in React, TypeScript, and Material UI, contributing to the creation of an enhanced User Dashboard.

Data Visualization Expertise: Acquired skills in integrating and customizing advanced data v

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : My internship at YugabyteDB Managed provided a dynamic and collaborative working environment. The company fosters a culture of innovation and continuous learning, creating a space where ideas flourish, and each team member is encouraged to contribute their unique perspectives. The collaborative spirit extends beyond departmental boundaries, promoting cross-functional teamwork.

I entered the internship with the expectation of gaining hands-on experience in software engineering while working on meaningful projects. Yugabyte not only met but exceeded these expectations by providing opportunities to contribute to a significant project focused on enhancing

the UI for YB Managed. The company's commitment to open-source values aligned with my desire for a learning-rich environment.

Yugabyte's emphasis on mentorship and knowledge sharing allowed me to learn from seasoned professionals, enhancing my skills in frontend development, data visualization, and collaborative coding practices. The expectation of delivering impactful results was met with challenges that stimulated problem-solving and innovation. Overall, the internship experience at YugabyteDB Managed not only met my expectations but provided a platform for personal and professional growth in a vibrant and forward-thinking atmosphere.

Academic courses relevant to the project : Software Engineering

PS-II Station : Zeotap India Pvt. Ltd. , Bengaluru

Faculty

Name: Raja Vadhana P

Student

Name: KHASNIS HARSHIT HANMANTRAO(2019B4A70031G)

Student Write-up

PS-II Project Title: Platform engineering at Zeotap

Short Summary of work done during PS-II : Optimise and design new workflows

Tool used (Development tools - H/w, S/w) : RabbitMq, Redis, GCP

Objectives of the project : Optimise and design new workflows

Major Learning Outcomes : RabbitMq, Redis, GCP

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : Good

Academic courses relevant to the project : Oop, DBMS, DSA

Name: WALUNJ VIPUL VIVEK .(2019B4A70607P)

Student Write-up

PS-II Project Title: Platform Engineering

Short Summary of work done during PS-II : Developed and optimised a customer data platform using concepts of OOP and DBMS

Tool used (Development tools - H/w, S/w) : Java-Play Framework, PostgreSQL, Redis

Objectives of the project : To build and optimize a customer data platform

Major Learning Outcomes : OOP, Databases

Details of Papers/patents : No Paper published

Brief Description of working environment, expectations from the company : Great working environment and peers. Very helpful

Academic courses relevant to the project : OOP, DBMS

PS-II Station : ZIM Laboratories Pvt. Ltd. , Nagpur

Faculty

Name: Anjani Srikanth Koka

Student

Name: RAYALA BHANU SRIRAJ(2020A3PS0503H)

Student Write-up

PS-II Project Title: (Analysis of Manufacturing process and optimization using IOT)

Short Summary of work done during PS-II : Through this project, I gained a very profound knowledge of pharmaceutical manufacturing processes and operations of a pharmaceutical company. This project helped me get hands-on experience working with business tools like Power BI and programming languages like SQL .

Tool used (Development tools - H/w, S/w) : PowerBI, MySQL,excel

Objectives of the project : The objective behind this project is to understand and analyze various pharmaceutical manufacturing process of different types of products. After a comprehensive study and analysis of existing manufacturing practices we make necessary suggestions for upgrading the existing technology and machineries to cope up with contemporary market competitors. We also analyze few key aspects that impact the net profits of the company and optimize the to improve the current financial status of the company.

Major Learning Outcomes : PowerBI, SQL

Details of Papers/patents : nil

Brief Description of working environment, expectations from the company : My mentor and all other senior executives are very helpful and supportive. It was great learning about the operations and supply chain of a pharmaceutical company.

Academic courses relevant to the project : nil

Name: JOGIREDDY YASWANTH REDDY .(2020A8PS0533P)

Student Write-up

PS-II Project Title: (Analysis of Manufacturing process and optimization using IOT)

Short Summary of work done during PS-II : Through this project, I gained a very profound knowledge of pharmaceutical manufacturing processes and operations of a pharmaceutical company. This project helped me get hands-on experience working with business tools like Power BI and programming languages like SQL

Tool used (Development tools - H/w, S/w) : PowerBI, MySQL,excel

Objectives of the project : The objective behind this project is to understand and analyze various pharmaceutical manufacturing process of different types of products. After a comprehensive study and analysis of existing manufacturing practices we make necessary suggestions for upgrading the existing technology and machineries to cope up with contemporary market competitors. We also analyze few key aspects that impact the net profits of the company and optimize the to improve the current financial status of the company.

Major Learning Outcomes : SQL , POWERBI and PYTHON

Details of Papers/patents : Nil

Brief Description of working environment, expectations from the company : My mentor and all other senior executives are very helpful and supportive. It was great learning about the operations and supply chain of a pharmaceutical company.

Academic courses relevant to the project : Nil

PS-II Station : Zluri , Bengaluru

Faculty

Name: Shreyas Suresh Rao

Student

Name: PIYUSH UPADHYAY(2020A3PS0550G)

Student Write-up

PS-II Project Title: Fullstack development

Short Summary of work done during PS-II : Worked on API optimization and client features

Tool used (Development tools - H/w, S/w) : Nodejs,mongodb

Objectives of the project : Backend engineering

Major Learning Outcomes : 1) nodejs

2) Kafka

3) mongodb

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Everyone was polite and supported and mentored me whenever needed

Academic courses relevant to the project : Fodsa, DSA

PS-II Station : Zolve Innovations Pvt. Ltd. , Bengaluru

Faculty

Name: Arindam Roy

Student

Name: TANUJ LAHOTI .(2020A8PS0542P)

Student Write-up

PS-II Project Title: Product Marketing & Management

Short Summary of work done during PS-II : NA

Tool used (Development tools - H/w, S/w) : CleverTap, Jira, Exotel, MoEngage, Gupshup, Freshworks, Notion

Objectives of the project : (1) Optimize the credit card onboarding funnel (2) Increase the number of product referrals (3) Increase the adoption of various loan and insurance products (3) Spearhead the product management for International Money Transfers

Major Learning Outcomes : Fast paced learning in a startup environment, understanding of US finance and banking structure, intricacies of product growth and managing a product from scratch

Details of Papers/patents : NA

Brief Description of working environment, expectations from the company : NA

Academic courses relevant to the project : None

PS-II Station : Zoplar - IT , Gurugram

Faculty

Name: Akshaya G

Student

Name: DHRUV DEHLAN(2019B1A40814G)

Student Write-up

PS-II Project Title: Frontend Web-Development

Short Summary of work done during PS-II : Homepage and Landing Page Development: I have successfully designed and developed a captivating homepage and landing page(<https://xray.zoplar.com/>) for our revamped website. These pages serve as the virtual front door to our platform, providing visitors with an engaging and visually appealing introduction to our products and services. • The homepage features a dynamic layout with eye-catching graphics and concise yet informative content, creating an inviting user experience. Meanwhile, the landing page is strategically crafted to drive specific user actions, such as sign-ups, purchases, or information inquiries, through clear call-to-action elements and compelling messaging. • The meticulous design and development process ensures that both pages are optimized for responsiveness, rendering seamlessly on a variety of devices and screen sizes.

Tool used (Development tools - H/w, S/w) : HTML , CSS , REACT.JS , NODE.JS , EXPRESS.JS , MongoDB , GIT/GITHUB , VSCODE

Objectives of the project : To build the frontend of entire website from scratch

Major Learning Outcomes : My internship experience with Zoplar has been an enriching journey where I successfully designed and developed both web and mobile versions of their website. Through the website and landing pages the company has secured over 350+ leads and drawn a traffic

Details of Papers/patents : DEPLOYED WEBSITE : <https://www.zoplar.com/>

Brief Description of working environment, expectations from the company : The working culture is good and my manager was quite understanding and supportive. The working days are from Monday to Saturday with timings from 10AM to 8PM.

Academic courses relevant to the project : OOP, OS

Name: NAVYA GUPTA(2020A1PS2455H)

Student Write-up

PS-II Project Title: FRONTEND DEVELOPMENT OF E-COMMERCE PLATFORM USING REACT JS

Short Summary of work done during PS-II : I worked on developing the frontend for the organization's website using Reactjs. The website comprised of various components like the homepage, the product listing page, product details page, forms, login and signup functionality ,otp verification, blogs etc. The design of the whole website was implemented using CSS and the functionalities were implemented using Reactjs. The state management was done using Redux. I made use of various React concepts like conditional rendering, lifting state up, event handling and different React hooks like useState and useEffect to implement functionalities in the webpages. Some of the functionalities were searching, filtering, tagging, form validation and adding to cart. Made use of many external libraries like react-slick, MUI etc to import certain

features. Used react-router to navigate to different webpages within the website. Also developed the mobile version of the website. In addition I implemented the design of the admin panel which is for internal use in the company.

Tool used (Development tools - H/w, S/w) : S/w : React js , CSS

Objectives of the project : 1) Develop the frontend for the organization's website which includes a homepage, a product listing page for all products available including low-value consumables to high value equipment, a product details page showcasing details of the product and some other pages. The PLP should consist of the following functionalities: • Searching a product using particular keywords. • Filtering all products by categories; medical fields (eg. Ophthalmology, Cardiology etc) , brands , type of products(eg. low-value/ high-value) • Adding to cart from the PLP itself 2) Create a quotation tracking flow for all orders which indicates the status of the order 3) Create forms dedicated to collecting user data for different purposes • for vendors to list their products • for doctors to sell their preowned machines • for users to avail different kind of financing options

Major Learning Outcomes : 1. Learnt HTML, CSS, Javascript in detail.

2. Learnt concepts of React like conditional rendering, lifting state up, event handling and made use of them in the website extensively.

3. Learnt various React hooks like useState,useEffect,useRef and implement

Details of Papers/patents : None

Brief Description of working environment, expectations from the company : Zoplar is a startup dealing in the area of procurement and distribution of medical supplies for hospitals, with a unique focus on connecting vendors of hospital supplies with smaller healthcare facilities. The work environment of the company is good and people here are quite friendly, supportive and helpful. I got ample of time as an intern for learning about new things related to the project and executing them. The expectations from candidates are the same as those elsewhere like timely submission of work, good quality work, efficiency and ability to understand the requirements of the company. Since it is a startup, the workload is a little high but beneficial in the long run as we get to learn and contribute a lot.

Academic courses relevant to the project : None

PS-II Station : Zoplar - Non IT , Gurugram

Faculty

Name: Uma Nagarajan

Student

Name: PATEL SHAILKUMAR ALPESHBHAI .(2019B1AB0182P)

Student Write-up

PS-II Project Title: Founder's Office Intern

Short Summary of work done during PS-II : While I worked on multiple projects parallelly, my major project was to implement a product based tech solution to intelligently map the consumer requirements to the product options available in the inventory, on the basis of the granular understanding of the medical devices. This reduced the product pitch time and increased the visibility across the teams. On the sidelines I built the end to end customer financing process by coordinating with the lenders, customers and the sales team to start the credit vertical in the organisation. Final project was to program manage and analyse the marketing campaigns on the unconverted leads from the past in order to get the maximum business from the already interacted consumer base. Overall, I collaborated with majorly every team of the organisation to fulfill these projects.

Tool used (Development tools - H/w, S/w) : Excel, Apps Script, WATI, Credit Underwriting

Objectives of the project : Closely work with the founder to collaborate with major teams of the organisation to improve the efficiency at business and strategic execution level.

Major Learning Outcomes : The startup is currently going through its 1-10 journey so it is imperative that you are expected to wear multiple hats and that has helped in learning through dynamic work. I learned hard skills like product management, data analysis, working capital man

Details of Papers/patents : nil

Brief Description of working environment, expectations from the company : The work environment is somewhat hectic but if you want to work in a fast paced startup environment then this is the right station. The teams are supportive in nature and the overall environment in office does make a great learning experience. Most important aspect is the accessibility to the heads of the organisation, they are totally available to guide and work with. So, for me that made all the difference as the learning opportunity increased manifold as I got to directly work with the co-founders of the startup. Moreover, apart from work there is team lunch daily, fulfilled by the office and every week there is team building or sports activity, so that is a plus point.

Academic courses relevant to the project : SAPM, PAVA

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