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PS-I station: Coral Clinical Systems , Goa

Student

Name: VAISHNAVI K .(2021A5PS1117H)

Student Write-up:

PS-I Project Title: Development of glucose kit by glucose hexokinase method and obtaining a test license

Short Summary of work done: We priory developed a glucose kit by glucose hexokinase method. Glucose hexokinase method-based kits have demonstrated precision and sensitivity in quantifying glucose concentrations. It provides an overview of the development of a glucose kit utilizing the glucose hexokinase method and the subsequent process of obtaining a test license.

Objectives of the project: To get a test license

Tool used: semi automated analyzer, evolution 3000 and fully automated machine , Bt

Details of Papers/patents: nil

Brief description of the working environment: I would like to extend my sincere appreciation and acknowledgment to Coral clinical systems for their invaluable contribution to my project. Throughout my research and development process, their expertise and dedication in the field of diagnostic kits have been instrumental in shaping the success ahead.

Academic courses relevant to the project: ima, pathophysiology and bio chem

Learning Outcome: Research and development aspects

PS-I station: Coral Clinical Systems , Goa

Student

Name: KSHEETEEJ ARYA VAUTREY .(2021A5PS3110H)

Student Write-up:

PS-I Project Title: Stability testing of glucose hexokinase diagonstic kit

Short Summary of work done: In the development of the glucose hexokinase test kit, extensive work was undertaken in testing and manufacturing to ensure its accuracy and reliability. The test kit is designed to measure glucose levels in blood samples and is commonly used in clinical settings to diagnose and monitor diabetes and other metabolic conditions. During the testing phase, researchers rigorously assessed the sensitivity and specificity of the kit by analyzing a large number of blood samples with known glucose concentrations. They compared the test results obtained from the kit with gold-standard reference methods to validate its precision and consistency. Additionally, the test kit's performance was evaluated across a diverse range of patient populations to ensure its suitability for different demographics. In the manufacturing process, careful attention was given to quality control to guarantee consistent and standardized production of the test kits. Stringent protocols were established to maintain batch-to-batch consistency and to minimize any potential sources of variation that could affect the accuracy of the results. The work done in testing and manufacturing the glucose hexokinase test kit ultimately resulted in a reliable and widely-used product. Its accuracy and ease of use have made it an indispensable tool for healthcare professionals in diagnosing and managing glucose-related conditions, leading to improved patient outcomes and better disease management.

Objectives of the project: To manufacture and test the glucose hexokinase diagnostic kit

Tool used: BT-1500, Spectrophoto analyzer

Details of Papers/patents: None

Brief description of the working environment: The company places a high value on teamwork, encouraging open communication and knowledge-sharing among employees. Cross-functional collaboration between researchers, engineers, and manufacturing specialists ensures a holistic approach to product development and continuous improvement.
During the testing and manufacture of the glucose hexokinase test kit, employees are expected to demonstrate meticulous attention to detail, accuracy, and precision. Thorough validation and quality control processes are essential to ensure the reliability of the test results and maintain the company's reputation for producing high-quality diagnostic products.

Working at Tulip Diagnostics offers ample opportunities for learning and professional growth. Team members are exposed to cutting-edge technologies, industry best practices, and the latest advancements in medical diagnostics. Regular training sessions and workshops enable employees to enhance their technical skills, stay up-to-date with industry trends, and foster a culture of continuous learning.
Overall, the work environment at Tulip Diagnostics fosters a sense of purpose and fulfillment, as employees contribute to the development of a crucial medical product that positively impacts patient health and well-being worldwide.

Academic courses relevant to the project: Instru methods of analysis, Pharmaceutical analysis, Pharmaceutical Chemistry, Pharmaceutical Formulations

Learning Outcome: Learnt how R&D works, How the manufacture of product in large scale takes place, And how to test and maintain a work environment.

PS-I station: Coral Clinical Systems , Goa

Student

Name: KARAN RAO .(2021B1A10771P)

Student Write-up:

PS-I Project Title: Development of Cholinesterase Assay and Testing of the Glucose Hexokinase kit.

Short Summary of work done: During my PS-I internship, I worked on two significant projects that aimed to advance diagnostic tools and improve patient care. The first project focused on developing a cholinesterase assay. This involved optimizing reaction conditions, selecting an appropriate assay methodology, and preparing necessary reagents and calibration standards. By determining the optimal pH, temperature, and reaction time, we ensured accurate measurement of cholinesterase activity. This assay can have implications in detecting and managing diseases related to cholinesterase activity. The second project addressed challenges in testing a glucose hexokinase kit. We tackled issues related to dextrose levels, cholesterol solubility, calcium levels, and total albumin measurements. By resolving these problems, we enhanced the reliability and accuracy of the glucose hexokinase kit, which is widely used in diabetes

management and monitoring. Both projects contribute significantly to the field of clinical diagnostics and hold the potential to improve disease detection, management, and patient care. They showcase the importance of ongoing research and development efforts in the medical field. The outcomes of these projects may lead to early disease detection, effective treatment strategies, and ultimately, better patient outcomes. This internship experience highlighted the critical role of innovation and collaboration in advancing healthcare technologies.

Objectives of the project: Development of Cholinesterase Assay and Testing of the Glucose Hexokinase kit.

Tool used: -

Details of Papers/patents: The Glucose Hexokinase kit we tested got an official license and now, is ready to be launched in the market.

Brief description of the working environment: The office environment was quite good. We were mostly working in a lab. And in our off hours, we were given a conference room. The workplace environment was good as well. Everyone was nice and helpful. One issue is that they didn't provide us with food and transportation facilities. So we had to figure out both on our own.

Academic courses relevant to the project: Since my discipline is Biological Sciences, one course really helped me, Instrumental Methods of Analysis (IMA). I was able to apply the concepts and principles from the IMA course in my PS-1 project.

Learning Outcome: 1. Gained knowledge about the significance of cholinesterase assays and glucose hexokinase kits in diagnosing and managing various medical conditions.
2. Understood the criticality of optimizing reaction conditions, including pH, temperature, and reaction time, to ensure accurate measurement of cholinesterase activity.
3. Acquired skills in the preparation of reagents, calibration standards, and control samples, and understanding the importance of adhering to standardized protocols and quality control procedures.
4. Recognized the challenges faced in glucose hexokinase kits, such as dextrose level variations, cholesterol interference, calcium levels, and total albumin measurements.

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Business Growth , Hyderabad

Student

Name: ANSHUL KUMAR SINGH .(2021A4PS2392H)

Student Write-up:

PS-I Project Title: Business Development and marketing campaigns

Short Summary of work done: Did a email campaign to pitch principals about the product

Objectives of the project: Email campaigning

Tool used: MailChimp

Details of Papers/patents: -

Brief description of the working environment: Great working experience

Academic courses relevant to the project: -

Learning Outcome: Digital Marketing

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Business Growth , Hyderabad

Student

Name: ADITYA CHATTERJEE(2021A7PS0007G)

Student Write-up:

PS-I Project Title: Go-To-Market Business Experiments

Short Summary of work done: As an intern at MASTH, working in the Business Growth team, my primary responsibility was to contribute to the organisation's marketing and business growth by creating impactful landing pages and executing targeted Facebook ad campaigns. The main focus of my work was to address the critical issue of smartphone addiction among teenagers in India while promoting MASTH's counselling services. To achieve the objectives of the campaigns, I conducted thorough research by studying multiple news articles and online reports related to smartphone addiction among teenagers. This information was instrumental in creating a specially tailored landing page, designed to resonate with the target audience and effectively communicate the benefits of MASTH's counselling services. In addition to the landing page, I implemented Facebook ad campaigns to further promote the message and increase the organisation's online presence. These campaigns were strategically targeted to reach the intended audience, maximising the impact of our message. The results of the campaigns have been encouraging, with high levels of traffic generated on the landing page within a relatively short span of time. The positive indicators in the analytics suggest that the campaigns have effectively captured the attention of the target audience and have the potential to contribute significantly to addressing the issue of smartphone addiction among teenagers in India. In this report, I will provide a comprehensive overview of the Facebook ad campaigns and landing pages, outlining the key findings and outcomes. Furthermore, I will highlight the goals and objectives of the campaigns, along with the overall impact they have had on MASTH's marketing efforts and its mission to address smartphone addiction while promoting counselling services.

Objectives of the project: Help the startup grow by building online presence

Tool used: LeadPages, GetRespone, Meta Ads Manager, MetaPixel

Details of Papers/patents: None

Brief description of the working environment: Since it was an online station, cannot comment on the working environment. The company is in a very interesting and booming market space, so I have high expectations and hope for the startup to succeed. Our mentors Mr. Aditya Yadandla sir and Mr. Yashaswy Akella sir were immensly helpful and supportive. Learnt a lot from them these past 2 months.

Academic courses relevant to the project: Since im in marketing and business growth, I cannot comment no academic courses. There would be many different courses in Management side of things, but i have personally not gone through any of them.

Learning Outcome: Marketing and Business Growth skills, Communication skills, Eye for detail, Content creation

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PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Business Growth , Hyderabad

Student

Name: AKSHAT AJMERA(2021A7PS2738G)

Student Write-up:

PS-I Project Title: GO-TO-MARKET BUSINESS EXPRERMINTS

Short Summary of work done: Learnt how to build landing pages and digital campaigning. Applied the knowledge on building a landing page on a niche topic of Stress after JEE & NEET failure. Built FB ad campaigns around it

Objectives of the project: To understand better how advertising and marketing works

Tool used: LeadPages, GetResponse, FB Ads, Google Ads

Details of Papers/patents: NO

Brief description of the working environment: Great working environment, mentors are extremely helpful. Learnt how to build a startup and market it.

Academic courses relevant to the project: No course requires

Learning Outcome: Understood how FB and Google Campaigning works

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PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Business Growth , Hyderabad

Student

Name: UJJWAL KHARANGAR .(2021AAPS2125H)

Student Write-up:

PS-I Project Title: Business Development & Marketing Campaigns

Short Summary of work done: I explored the industry space by researching on the various companies like Calm, Headspace, Wysa, 7 Cups of Tea and Woebot Health. The research explored various criterias like product offerings, funding, USP, target population, reviews, business model and pricing models etc. Familiarised myself with Copy.ai and Mailchimp, which were then leveraged to form email campaigns for 1000+ schools from all tier-1 cities to generate leads.The data from the email campaigns was leveraged to get leads which were approached directly by call to establish positive contact and to discuss possibilities to try our products and generate traction. Various other approaches were also leveraged like LinkedIn and blog sites to make contact with the relevant people like principals, directors, administrators, school counsellors and child psychologists etc.

Objectives of the project: Market Research and Opportunity Analysis, Lead Generation and Conversion Optimization

Tool used: Copy.ai, Mailchimp, Mailtrack, some other AI tools

Details of Papers/patents: -

Brief description of the working environment: The environment is positive and flexible. Daily meets are conducted wherein updates for the work are taken, and the developments are discussed. The mentors are very welcoming and understanding if some days you are not able to produce any development.
For our project, it is expected that we generate leads and establish partnerships with schools to use our MASTH Guru App.
We were first exposed to the emotional wellness tech industry space by researching about our competitors and their different approaches and USPs. Copy.ai and Mailchimp were then incorporated for email campaigns, and various cities' schools were focused on by me for lead generation.

Academic courses relevant to the project: -

Learning Outcome: Enhancement in effective communication skills, knowledge of email marketing tools and presentation skills.

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Business Growth , Hyderabad

Student

Name: NILESH ARYAN(2021AAPS2491G)

Student Write-up:

PS-I Project Title: Business Development and Marketing Campaign

Short Summary of work done: During my internship at MASTH, I undertook a multifaceted digital marketing project with a focus on promoting student emotional wellness. The project encompassed various key areas, including market research, social media marketing, lead generation, and conversion optimization. I conducted in-depth market research to identify emerging trends and untapped opportunities in Tier 3 cities, where the need for mental health support in schools was particularly evident. Leveraging Mailchimp, I designed and executed five email campaigns to reach over 225 unique schools, receiving positive responses and generating traction. Despite challenges in click-through rates, the consistent 30% open rate demonstrated strong interest in our offerings. Moreover, I initiated targeted outreach on LinkedIn, connecting with esteemed educators, counselors, and psychologists. While engagement was limited due to some inactive profiles, we received promising interest from top educators, signaling potential for future collaborations. In addition to email campaigns, I reached out to specific educators and counselors at leading schools like CS Academy and Dhirubai Ambani International School. These personalized efforts resulted in productive conversations and planned demos to showcase our platform's capabilities. Throughout the internship, I honed essential skills such as market analysis, content creation, campaign optimization, and relationship building. The experience provided valuable insights into the digital marketing landscape and how it can be leveraged to drive meaningful impact in the education sector. As I conclude my internship, I present a comprehensive report detailing the methodologies, results, and conclusions, along with recommendations for future business development and marketing strategies. The knowledge gained and experiences accrued

during this journey have prepared me to contribute effectively to any business aiming to grow and make a difference in the digital realm.

Objectives of the project: The project aimed to promote student emotional wellness in Tier 3 cities by conducting market research, implementing targeted email campaigns and LinkedIn outreach, generating leads from schools, and refining MASTH's solutions based on valuable feedback from education professionals.

Tool used: S/w - Mailchimp, LinkedIn, Social Media Platforms, GPT 3.5, Canva

Details of Papers/patents: No

Brief description of the working environment: During my Professional Summer Internship (PS-I), I had the privilege of working in a dynamic and innovative working environment at MASTH. The company culture emphasized collaboration, creativity, and a strong dedication to promoting student emotional wellness.
As an intern, the company had high expectations for me to contribute actively to various projects. I was encouraged to take ownership of tasks and seek opportunities to implement my ideas. The team provided constant guidance and support, ensuring I had the resources needed to excel in my role.
Throughout my internship, I had the opportunity to work on a diverse range of projects, including market research, email campaigns, and LinkedIn outreach. This allowed me to gain valuable insights into digital marketing strategies and their applications in the education sector.
The learning experience during PS-I was unparalleled. I acquired new skills in email marketing, social media management, and lead generation. I also learned how to analyze campaign data to make informed decisions and optimize marketing efforts.
The company's commitment to student well-being and the impact of their services on educational institutions inspired me. Working in such an environment fueled my passion for making a positive difference in the lives of students and educators.
Overall, my PS-I journey at MASTH was enriching and fulfilling. The exposure to real-world marketing challenges and the guidance from experienced professionals expanded my horizons and prepared me for future endeavors in the digital marketing domain. I am grateful for the opportunity to have been a part of this inspiring team and look forward to applying my newfound knowledge and skills in my future endeavors.

Academic courses relevant to the project: Social Psychology and Digital Marketing

Learning Outcome: The main learnings from the project include the importance of targeted outreach to reach the right audience, optimizing email campaigns for improved engagement, understanding market dynamics to tailor approaches, leveraging digital marketing platforms for automation and data-driven decisions, and building strong relationships with education professionals for potential collaborations. These insights will inform future business development and marketing initiatives at MASTH, ensuring effective promotion of student emotional wellness.

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Digital Marketing , Hyderabad

Student

Name: A.SAI PUVIIYARASU .(2021A1PS2594P)

Student Write-up:

PS-I Project Title: Business Development & Marketing Campaign(End-to-End Podcast)

Short Summary of work done: As part of the Digital Marketing team, we had been tasked with creating a podcast series on the themes of emotional well-being. In this series, we would get in touch with various guest speakers from diverse fields, such as educator, psychologists, content creators, and more and they provide their insights on various subjects like stress, anxiety, self-awareness, motivation, fear of failure, personal growth and resilience. For this project, we have learnt networking through LinkedIn Sales Navigator and Mailchimp. Along with that, we learnt content creation for podcasts. We have utilized various software like Riverside for Recording, Audacity for Editing, and Spotify for Podcasters for Hosting podcasts

Objectives of the project: Create a podcast on the themes of emotional well-being

Tool used: Riverside for Recording, Audacity for Editing, Spotify for Podcasters for Hosting, LinkedIn Sales Navigator for networking

Details of Papers/patents: -

Brief description of the working environment: The working environment was very supportive and engaging. We have learnt various skills including Networking, Content Creation, and Strategic Thinking.

Academic courses relevant to the project: -

Learning Outcome: Strategic Thinking
Communication Skills

Content Creation
Networking

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Digital Marketing , Hyderabad

Student

Name: SAYAN BANERJEE .(2021B5A71516P)

Student Write-up:

PS-I Project Title: Frontend Development of the MASTH Application

Short Summary of work done: I was tasked with modifying and expanding the MASTH application by implementing the new UI and expanding features like Dialogue Flow integrated Chatbot. Further, I added entirely new screens and also changes some of the screens to improve user experience.

Objectives of the project: Development of UI, Integration of Firebase and Expansion of Dialogue Flow ChatBot

Tool used: Flutter

Details of Papers/patents: No

Brief description of the working environment: The working environment was good. We had to meet Monday to Friday for half an hour for daily standup sessions and that's all. The industrial mentors we friendly and cooperative.

Academic courses relevant to the project: CP, OOPS

Learning Outcome: Flutter, Firebase and Dialogue Flow

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Machine Learning , Hyderabad

Student

Name: KRISHNA SETHIYA(2021A7PS1440G)

Student Write-up:

PS-I Project Title: Recommender Systems leveraging user emotion

Short Summary of work done: Developed mock book recommender to understand the basics. Developed a full fledged movie recommendation system taking user's mood and choice of genre as input. Developed Mock APP and integrated model with it. Hostel model's API on world wide web.

Objectives of the project: To recommend users with movies taking into account their current mood.

Tool used: Android Studio, GitHub, Flask API, Python

Details of Papers/patents: -

Brief description of the working environment: Team work, exposure to industrial environment.

Academic courses relevant to the project: -

Learning Outcome: Recommender Systems, Flask API, Python, App Dev

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PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Machine Learning , Hyderabad

Student

Name: SREEKAR CHOUDARY YADLAPALLI(2021A7PS2602G)

Student Write-up:

PS-I Project Title: Machine learning model on Speech Emotion Recognition

Short Summary of work done: Learnt basics of ML and developed models on Titanic dataset and Handwriting digit recognition as they were classification models (and my final project is also a classification model). Created a model for detecting emotion from speech. Improved the accuracy of the model and then called it in Backend(FlaskAPI). Then created a mock app and linked the API with the app to make the model work on an app to make the final integration with MASTH App easier

Objectives of the project: Make an ML model which predicts emotion from speech using frequency and other parameters.

Tool used: Python, Flutter

Details of Papers/patents: None

Brief description of the working environment: The PS station was online. The company doesn't expect much from you, just an interest in learning and implementing new stuff. I learnt quite a lot from the company- Non-tech: communication with peers, how to present what you did; Tech: Basic understanding of ML (enough to understand and manipulate the code), API development, and Making an App using Flutter.

Academic courses relevant to the project: ML, DL

Learning Outcome: Learnt how to make an ML model and integrate the model with an API. Also linking the API with a mock app.

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Machine Learning , Hyderabad

Student

Name: VALETI KUMARAKRISHNA(2021A7PS2617G)

Student Write-up:

PS-I Project Title: Emotion detection from text journal entries

Short Summary of work done: I was tasked with developing and executing a model for Emotion detection from text journal entries to gain insights into teenagers mental state. It was my first ML project , and got to try out various models. We were also expected to develop and api, and integrate it with a mock app on android studio before sending it for final integration with the MASTH App. As part of the learning curve we were also allowed to execute sample projects to gain familiarity with ML concepts.

Objectives of the project: Detect emotions from diary entries of teenagers to gain insights into their mental state.

Tool used: python keras jupyter flask android studio

Details of Papers/patents: None

Brief description of the working environment: We had daily meets of 30 min duration, where we were expected to give a progress update of the previous day. The mentors were the co-founders of the company, and were accommodating towards any issues/difficulties faced. The workload was not too heavy, and provided a chance to explore ML from an industry perspective. Apart from the academic learning we also got an insight into the functioning of startups, making timelines for a project and giving regular progress reports.

Academic courses relevant to the project: Machine Learning

Learning Outcome: Learnt basics of machine learning, nlp, got acquainted with kaggle. Learnt about API development and android studio. Learnt complete development and app implementation cycle of an ML model.

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Machine Learning , Hyderabad

Student

Name: SHREY PAUNWALA .(2021A7PS2808H)

Student Write-up:

PS-I Project Title: Integrating chatbot with OpenAI API

Short Summary of work done: The project "Integrating chatbot with chatgptAPI" aimed to create a sophisticated and efficient chatbot by combining cutting-edge Natural Language Processing (NLP) capabilities with the power of the chatgptAPI. The primary focus was on integrating an existing chatbot system with the chatgptAPI, a robust language model provided by OpenAI, to enhance its conversational abilities and user interactions. The project team delved into the intricacies of API integration, learning how to effectively connect the chatbot with the external chatgptAPI to harness its language comprehension and generation capabilities. This process involved understanding API endpoints, handling authentication, and exchanging data seamlessly between the chatbot and the API. To achieve the desired functionality, the team honed their NLP expertise, utilizing techniques like text analysis, sentiment analysis, and intent recognition to process and interpret user input accurately. They trained the chatbot to recognize user queries, identify their intents, and provide contextually relevant responses. The chatbot's development process involved creating a user-friendly interface, allowing users to interact effortlessly with the system. The team also focused on fine-tuning the chatbot's responses through iterative testing and improvement, making it feel more natural and human-like. Throughout the project, the team faced various challenges, including debugging issues arising from API integration, optimizing response times, and addressing potential ethical concerns related to the usage of AI in chat interactions. Ultimately, the project yielded a powerful and efficient chatbot, capable of engaging users in meaningful conversations while providing accurate and context-aware responses. The team's learning journey encompassed API integration, NLP techniques, chatbot development, problem-solving, and user experience enhancement, making it a valuable and enriching experience for all involved.

Objectives of the project: To build a chatbot and integrate it with chatgpt API

Tool used: Node JS,express,twilio,DialogFlow ES

Details of Papers/patents: NO

Brief description of the working environment: Working Environment:

The working environment for the "Integrating chatbot with chatgptAPI" project is likely to be dynamic and collaborative. The team would consist of developers, NLP experts, and possibly AI researchers. The team members would work together to integrate the chatbot with the chatgptAPI, brainstorm solutions to technical challenges, and continuously improve the chatbot's performance. Frequent communication and coordination would be crucial to ensure seamless progress.

Expectations from the Company:

The company would expect the project team to successfully integrate the chatbot with the chatgptAPI, resulting in a functional and reliable product. The chatbot should be capable of understanding and responding to user queries accurately and efficiently. Additionally, the company may also expect the team to adhere to ethical guidelines and ensure the chatbot's interactions are respectful and compliant with privacy regulations.

Learning during PS-I:

During the project semester (PS-I), team members would have ample learning opportunities. They would gain proficiency in API integration, learning how to work with external services and APIs to enhance the chatbot's capabilities. NLP expertise would be developed through hands-on experience with various NLP techniques, such as sentiment analysis, intent recognition, and language generation.

Additionally, the team would learn about chatbot development, understanding the nuances of creating user-friendly interfaces and iteratively improving the chatbot's responses. Problem-solving skills would be honed while tackling challenges that arise during the integration process, requiring the team to debug issues and optimize performance.

Moreover, team members would likely develop soft skills, such as effective communication and collaboration, as they work together towards a common goal. The project could also foster an understanding of the ethical considerations surrounding AI applications and the responsible use of AI technology in real-world scenarios. Overall, the PS-I experience would equip the team with valuable technical and interpersonal skills, contributing to their professional growth.

Academic courses relevant to the project: Machine Learning

Learning Outcome: The major learning outcomes from the project "Integrating chatbot with chatgptAPI" include:

1. Proficiency in API integration: Understanding the process of integrating a chatbot with external APIs and leveraging its capabilities effectively.
2. Natural Language Processing (NLP) expertise: Gaining hands-on experience in NLP techniques to analyze and process user input, enabling accurate responses.
3. Chatbot development: Acquiring skills in creating, training, and deploying chatbots to interact with users in a human-like manner.
4. Problem-solving and debugging: Developing the ability to troubleshoot issues and optimize the chatbot's performance.
5. User experience enhancement: Learning to refine and improve the chatbot's interactions to deliver a more seamless and satisfying user experience.

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Mobile App Development , Hyderabad

Student

Name: PRIYANSHU SAPPRA .(2021A3PS2822H)

Student Write-up:

PS-I Project Title: Improve the MASTH Guru- Teacher App

Short Summary of work done: I worked on the teacher's section of the MASTH Guru app using Flutter and Firebase. I worked on the UI of login page, added sort functionality for Student Data and added Teacher Id field to track and manage the changes made by the teachers on a Student's profile. I got rid of some other issues to improve the data storage and retrieval.

Objectives of the project: To create an easy to use and friendly user interface for teachers on the MASTH Guru app to manage student data by adding helpful features.

Tool used: Flutter, Firebase, Android Studio

Details of Papers/patents: NA

Brief description of the working environment: The work environment at MASTH was very good. The mentors were very friendly and helpful, they guided us throughout the 2 month internship and assisted with all the difficulties faced in completing the tasks. We had daily stand up meetings where we would discuss the work done on the previous day and assign tasks for the next day. I learned the importance of teamwork and improved my interpersonal skills.

Academic courses relevant to the project: DSA

Learning Outcome: I learnt cross platform app development using Flutter and Android Studio. I learnt about User Authentication in Firebase and also learnt how to store and retrieve data using Cloud Firestore in Firebase.

PS-I station: MASTH (UltraHive Healthcare Pvt Ltd) - Mobile App Development , Hyderabad

Student

Name: ANANYA GOYAL(2021B5AA2798P)

Student Write-up:

PS-I Project Title: Integrating AI into the existing chatbot of the app

Short Summary of work done: During PS-I, I worked on the project "Integrating Generative AI into the Chatbot." The primary objective was to enhance the capabilities of an existing chatbot by leveraging generative AI techniques. I gained proficiency in AI concepts, such as generative models and natural language processing, and developed expertise in programming languages like Flutter and Dart, which were used for chatbot development.Throughout the project, I focused on improving user engagement by providing more personalized and interactive conversations through the chatbot. I also worked on automating the process of generating responses, reducing the manual effort required. UI/UX design principles were applied to create user-friendly interfaces and enhance the chatbot's overall user experience. Additionally, data analysis and analytics were utilized to gather insights into user interactions and improve the chatbot's performance. The project was executed collaboratively, and effective project management skills were developed to ensure the successful implementation of the objectives. By the end of PS-I, I achieved the project's goals, showcasing the integration of advanced AI technologies in practical applications and contributing to the success of the practicing station.

Objectives of the project: Integrating Generative AI into the Chatbot project aims to enhance the capabilities of the existing chatbot by leveraging generative AI techniques. By incorporating advanced AI models, the chatbot will be able to generate contextually appropriate and coherent responses, offering users more engaging and dynamic interactions. The project's objectives include improving user engagement, automating response generation, and showcasing innovation in AI integration. Through this project, I will have the opportunity to demonstrate their skills in AI implementation and contribute to the success of the Practice School by achieving quantifiable benefits for the practicing station.

Tool used: Flutter, Flutter libraries, Dart , Dialog Flow, Android Studio,Github

Details of Papers/patents: NA

Brief description of the working environment: During PS-I, the working environment was characterized by regular meetings with the PS mentor, where we provided updates on the progress of the project. These meetings served as opportunities to discuss any challenges or roadblocks faced during the development process, and the mentor's feedback and guidance were instrumental in overcoming them. The company's expectations were focused on achieving the project's objectives of integrating generative AI into the chatbot, enhancing user engagement, and automating response generation.
The company valued our ability to work collaboratively as a team, effectively communicate ideas, and manage the project's timeline and deliverables. They expected us to demonstrate proficiency in AI concepts, programming languages, and AI frameworks necessary for successful project execution.
Throughout PS-I, we learned valuable skills and knowledge in AI integration, particularly in implementing generative AI models and natural language processing techniques. We gained hands-on experience in using Flutter and Dart for building a user-friendly chatbot interface. Additionally, we acquired expertise in utilizing Dialogflow for chatbot development and enhancing its responses to user queries.
The regular mentorship and interactions with the company's team enabled us to understand real-world industry practices, project management strategies, and the importance of collaborative problem-solving. The company's support and mentor's feedback contributed significantly to our personal and professional growth during the PS-I experience.
Overall, PS-I provided a conducive working environment where learning, practical application of AI technologies, and effective teamwork were emphasized, leading to a successful project outcome and a valuable learning experience for all involved.

Academic courses relevant to the project: Artificial Intelligence: This course covers the fundamentals of AI, including machine learning, natural language processing, and deep learning.
Programming Languages: Courses in programming languages like Dart provide the necessary coding skills for imple

Learning Outcome: The major learning outcomes of the project "Integrating Generative AI into the Chatbot" included gaining proficiency in AI concepts and technologies, such as generative AI models and natural language processing. I developed expertise in programming languages like Flutter and Dart, and gained hands-on experience in working with Dialogflow for chatbot development. Additionally, the project enhanced my understanding of UI/UX design principles, allowing for the creation of user-friendly interfaces and interactive conversational flows within the chatbot. Moreover, the project provided insights into data analysis and analytics for making data-driven decisions to improve the chatbot's performance. Throughout the project, collaborative teamwork and effective project management skills were developed, ensuring successful execution and achievement of project objectives.

PS-I station: Medsupervision Pvt. Ltd. , Faridabad

Student

Name: DISHANK GOYAL(2021A3PS2396G)

Student Write-up:

PS-I Project Title: Metaverse and LLM

Short Summary of work done: During PS-I, I researched the metaverse and its impact on consumer electronics, focusing on VR, AR, and MR technologies. I analyzed hardware like VR headsets and AR glasses, studied software infrastructure, and evaluated market trends. My recommendations included investing in R&D and fostering content creation collaborations for businesses to leverage the metaverse's potential.

Objectives of the project: Research about Metaverse and the second one is to make a pesonalized chatbot which gives answer according to the pdf given to it in response to the prompts given.

Tool used: I used internet search engines, research databases, VR/AR devices, data analysis software, collaboration tools, and presentation software for my metaverse and consumer electronics research.

Details of Papers/patents: no paper as of now

Brief description of the working environment: During PS-I, I thrived in a collaborative and dynamic working environment remotely. The company fostered open communication, enabling me to seek guidance and feedback from mentors and team members. My responsibilities included conducting extensive research on the metaverse and consumer electronics, analyzing data, and presenting findings. I gained hands-on experience with cutting-edge VR/AR devices and various tools and technologies relevant to my project. The company encouraged personal and professional growth, offering access to workshops and training sessions. I appreciated the supportive atmosphere that allowed me to contribute ideas and learn from others. Overall, PS-I was a rewarding experience that fueled my passion for research and innovation in this domain.

Academic courses relevant to the project: The academic courses relevant to the project include Virtual Reality (VR) and Augmented Reality (AR) Technologies, Consumer Electronics and Gadgets, Computer Graphics, Data Analysis, IoT, AI, UX/UI Design, Electronics, and Advanced Programming. These cour

Learning Outcome: Learn about different consumer electronics used in the metaverse technology and also learnt about various LLMs specifically Opening and the framework langchain which is used to implement chatbot

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PS-I station: Medsupervision Pvt. Ltd. , Faridabad

Student

Name: JAY GOYAL .(2021A7PS2418P)

Student Write-up:

PS-I Project Title: Federated Learning in Healthcare

Short Summary of work done: I read multiple papers from different sources on the topics of Federated Learning, Federated Transfer Learning and Federated Incremental Learning. Study of existing implementations of the same was done. We analyzed the different techniques and started work on a Federated Incremental Model.

Objectives of the project: Explore the applications of federated learning in healthcare and compare it to other machine learning methods.

Tool used: Python, PyTorch, Google Colab

Details of Papers/patents: NA

Brief description of the working environment: Overall, the work environment was really nice. The team from MedSupervision was there to help me out in case of any difficulty. My group consisted of people knowledgeable on the topic of machine learning and artificial intelligence. I had pretty high expectations from the work that I would get to do and the company did not disappoint.

Academic courses relevant to the project: Artificial Intelligence and Machine Learning

Learning Outcome: I went into the PS with no knowledge of machine learning. By the end, I am comfortable with Python, PyTorch and other libraries for data processing(NumPy etc). I also understand different machine learning methods and what makes them different.

PS-I station: Medsupervision Pvt. Ltd. , Faridabad

Student

Name: AKSHAT GARG(2021AAPS0261P)

Student Write-up:

PS-I Project Title: Autonomous Drones

Short Summary of work done: Very insightful experience, learnt a lot about AI, ML. Mentor and FIC were extremely supportive throughout.

Objectives of the project: To highlight the application of drones and AI used in these

Tool used: python

Details of Papers/patents: -

Brief description of the working environment: very supportive and encouraging work condition.

Academic courses relevant to the project: computer programming

Learning Outcome: AI, ML

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: DIYA RASTOGI(2021A3PS2693G)

Student Write-up:

PS-I Project Title: Multimedia Integration and Encrpytion

Short Summary of work done: Multimedia Integration: Allow users to upload or attach relevant multimedia files such as X-rays, MRI scans, or medical reports to provide additional context for their condition. Implement a secure file upload feature and ensure compatibility with common file formats used in medical imaging.

Objectives of the project: Multimedia Integration ,Encryption of Multimedia

Tool used: Flask,Python ,Microsoft azure , pycharm

Details of Papers/patents: nil

Brief description of the working environment: the working environment was really stressful and hectic mainly due to the various assignments and deadlines. Our projects were very varied overall ,but overall i learnt a lot through my assignments. Our manager did schedule one on ones with us to debug our issues and help with the assignement . I completed and finished all 5 assignments successfully . Our PS faculty was very helpful in providing insights and listened to our grievances well.

Academic courses relevant to the project: nil

Learning Outcome: Flask,HTML CSS JS, AZURE

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: DHRUV SHRIMALI .(2021A7PS0008P)

Student Write-up:

PS-I Project Title: RedFlags

Short Summary of work done: Introduction to developer tools, including GitHub, CLI, and Python. Learned about data and interfaces in healthcare, and conducted a literature review on emerging applications of AI in healthcare. Introduction to LLMs, and applied web page design and DevOps strategy to create a dynamic prototype using Flask and LangChain frameworks. Created databases to store user data, analyze it, and present it to the user in a graph format. Successfully completed the literature review on emerging applications of AI in healthcare. Designed and implemented a dynamic prototype using Flask and LangChain frameworks. Learned to communicate effectively with peers and company leadership.

Objectives of the project: Create databases to store user's data, analyse it and show it to the user in a graph format.

Tool used: Python, Jupiter Notebook, OpenAI, LLMs

Details of Papers/patents: None

Brief description of the working environment: The working environment at mobile MSK is supportive. The team is made up of smart engineers who are passionate about developing AI-powered healthcare applications. There is a strong emphasis on learning and growth, and the team is always willing to help each other out.
The company expects its employees to be proactive and self-motivated. They are also expected to be able to work independently and as part of a team. The company values employees who are able to learn quickly and who are always looking for ways to improve their skills.
I learned a lot during my time at mobile MSK. I learned about the basics of developer tools, data and interfaces in healthcare, LLMs, web page design, DevOps, and effective communication. I also learned how to apply these skills to create a dynamic prototype using Flask and LangChain frameworks.
I am grateful for the opportunity to have worked at mobile MSK. I learned a lot and I am confident that the skills and knowledge I gained will be valuable in my future career.

Academic courses relevant to the project: Database Systems, Computer Programming

Learning Outcome: Python, Flask, LLMs(ChatGPT)

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: AMAY SOOD .(2021A8PS2702P)

Student Write-up:

PS-I Project Title: Identification of Red and Yellow Flags using Machine Learning

Short Summary of work done: The first 2 weeks consisted of training, we were brought upto speed in various topics to achieve a fundamental understanding necessary for building the final project. We learnt python, Machine Learning, Web Development and Generative AI fundamentals. Going forward I developed a AI chatbot with the power of LLM that interviews a patient and summarizes the conversation. I also modified this to carry out differential diagnosis by analysing the patients responses and tailoring questions accordingly. Finally I worked on the deployment of the Web app using Azure for end to end development. I made table diagrams for the Web App and the. Developed those in Azure.

Objectives of the project: Identifying common signs of diseases in a conversation with a patient using NLP

Tool used: Python, LangChain, Azure

Details of Papers/patents: NA

Brief description of the working environment: Working environment was virtual but all the interns and mentors were very friendly. We were in contact on a daily basis. I had expected to work on some interesting NLP projects coming to the company. I got the opportunity to do the same during my time at the company. I learnt how to build Machine learning models end to end and how to deploy them finally.

Academic courses relevant to the project: Machine Learning

Learning Outcome: Machine Learning basics, Generative AI methods, Web development principles, Deployment basics

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PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: ASHIRBAD PANDA(2021AAPS2925G)

Student Write-up:

PS-I Project Title: Backpain website development using Python

Short Summary of work done: My work was majorly development of an interactive website to access the back pain of users. For that I prepared all the set of relevant questions and provided all sets of resources to the users. I also created a friendly chatbot for further interaction and queries.

Objectives of the project: The project aims to build a website used for management of back pain. The compa

Tool used: VS code, Pycharm editor, GitHub

Details of Papers/patents: None

Brief description of the working environment: The environment was really supportive and helped me to grow as a developer and student. I had a chance to interact with industry experts and they were motivating.

Academic courses relevant to the project: Computer programming

Learning Outcome: AI/ML , LLM models, Python programming

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: SHASHWAT PANDEY .(2021B1A12297P)

Student Write-up:

PS-I Project Title: Application of web page design and DevOps strategy to create a dynamic prototype using Flask and LangChain frameworks

Short Summary of work done: Work was lite only not a big deal in managing the assignments given by the MobileMsk team.

Objectives of the project: To learn how to apply knowledge of AI/ML in web app development

Tool used: Html, Css, Js, Nodejs, Django

Details of Papers/patents: NA

Brief description of the working environment: Company's environment was chill. Company's owner and the CPO both were both very approchable.

Academic courses relevant to the project: None

Learning Outcome: Django, MatPlotLib, Javascript, NumPy

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: GUNGUN VANJANI .(2021B1A42477P)

Student Write-up:

PS-I Project Title: SDE (ML)

Short Summary of work done: Introduction to developer tools: GitHub, command-line interface (CLI), and Python ● Introduction to data and interfaces of healthcare ● Literature review for emerging applications of AI in healthcare ● Introduction to LLMs ● Application of web page design and DevOps strategy to create a dynamic prototype using Flask and LangChain frameworks ● Practice effective communication with peers and company leadership

Objectives of the project: A website for the users with back pain so that they can be helped with it remotely and wherever they are. (AI in Healthcare.)

Tool used: GitHub, Flask, VS code, Python

Details of Papers/patents: A website for backpain made and posted on github account.

Brief description of the working environment: Amazing working environment, tasks assigned properly, learnt using a lot of new things.

Academic courses relevant to the project: CS

Learning Outcome: Web designing

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: YASH NIGAM .(2021B2A32290P)

Student Write-up:

PS-I Project Title: AI-driven app development

Short Summary of work done: Introduction to developer tools: GitHub, command-line interface (CLI), and Python Introduction to data and interfaces of healthcare Literature review for emerging applications of AI in healthcare Introduction to LLMs Application of web page design and DevOps strategy to create a dynamic prototype using Flask and LangChain frameworks

Objectives of the project: Application of web page design and DevOps strategy to create a dynamic prototype using Flask and LangChain frameworks

Tool used: GitHub,Python,Flask, JavaScript, CSS,HTML

Details of Papers/patents: None

Brief description of the working environment: The environment was friendly as it was online we had meets to interact with the professor and our mentor. We could also message him through wave to discuss our problems.
The company works on using AI to solve backpain problems.
I learned how to use different developer tools as mentioned above.I learned how to use the above tools such that I could form a working website with it using frontend.

Academic courses relevant to the project: Python,Frontend

Learning Outcome: Learned how to use GitHub,CLI,python, LLMs and Application of web page design and DevOps strategy to create a dynamic
prototype using Flask and LangChain frameworks

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: SAMSKRUTHI V .(2021B4A32922H)

Student Write-up:

PS-I Project Title: NLP/LLM

Short Summary of work done: NA

Objectives of the project: Update the existing web app using LLMs

Tool used: Microsoft Azure, PyCharm, OpenAI

Details of Papers/patents: NA

Brief description of the working environment: NA

Academic courses relevant to the project: ChatGPT courses, Harvard CS50 course

Learning Outcome: Worked a lot with ML

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: AVNISH MANGESH KOTAMBKAR(2021B5A31753P)

Student Write-up:

PS-I Project Title: RedFlags-UserProfile, Private messaging to Physician, Help and Support, Symptom Checker module

Short Summary of work done: Initially, I embarked on a journey to acquire essential skills such as Python Programming, Flask, Git, and GitHub, which were instrumental in enabling me to proficiently construct functional websites. To apply and enhance my abilities, I was tasked with completing a challenging CS50 assignment from Harvard University, centered around creating a website facilitating stock trading, encompassing both buying and selling functionalities. Following the successful completion of this assignment, I was entrusted with specific components of the overarching project termed 'RedFlags.' Within the scope of this project, I assumed responsibility for coding pivotal features including User Profile management, Messaging Physicians, Frequently Asked Questions (FAQs) section, and Help and Support functionalities. The RedFlags project posed an invaluable opportunity to showcase my expertise in web development and my capacity to contribute to complex and multifaceted endeavors. Subsequently, I was

presented with another distinctive project titled 'Symptom Checker.' Under this initiative, my primary objective involved the development of an advanced website that could proficiently identify potential medical conditions based on the symptoms selected by the user. My efforts in this project showcased my ability to build sophisticated and intelligent systems capable of assisting users in identifying relevant health information through a seamless interface. These experiences collectively contributed to my growth as a proficient web developer, fostering an environment where I could demonstrate my proficiency in utilizing diverse programming languages and technologies to create impactful solutions. By successfully delivering these projects, I have honed my problem-solving capabilities and established a solid foundation for further professional growth in the field of web development and beyond.

Objectives of the project: To develop an online platform dedicated to the aggregation and systematic examination of user-specific medical data

Tool used: Python, Flask, HTML, CSS, SQLite, Git and Github

Details of Papers/patents: None

Brief description of the working environment: At my PS1 station, the operational mode was set to online, offering a conducive environment for remote work. Our work schedule was characterized by flexible hours, affording us the autonomy to choose when to engage in tasks throughout the day. However, it was incumbent upon us to ensure the timely completion and submission of assignments, adhering diligently to the prescribed deadlines.

Academic courses relevant to the project: None yet

Learning Outcome: I improved my coding skills in Python and Web Development. I learnt how to build functional websites using Flask, HTML, CSS and SQLite. I got to know how to make use of AI and ML in collection and analysis of medical data in order to improve the contemporary medical system.

PS-I station: MobileMSK LLC , Saint Cloud MN

Student

Name: LAWANYA SHARMA(2021B5TS2061P)

Student Write-up:

PS-I Project Title: AI driven app development

Short Summary of work done: MobileMSK creates software to improve the efficiency of the treatment of back pain. Patients suffering from back discomfort are given prompt access, therapy, pain medication, as well as assistance. The platform provides regular checkups to promote healthy living, diagnostic screenings to determine the causes of pain, support for follow-up treatment with real clinicians through advice, referrals, and care coordination, and programming for pain reduction, rehabilitation, and the prevention of future pain episodes. Projects include: Python Overview: In order to successfully complete this project, we were required to watch a comprehensive Python overview video. And further turn in three projects along with their code. Along with the python overview we were supposed to watch short videos for the basic understanding of GitHub and Linus Shell Scripting. The knowledge was summarized in GitHub's repositories which was an assignment itself as it tested our knowledge and understanding. Courses on LLM (ChatGpt): We were supposed to finish deep learning courses on LLM. ChatGpt prompt engineering for Developers, Building Systems using ChatGpt API, How Diffusion Model Works, and Lang Chain for LLM application Development were the four main courses which were assigned to a set of students. How the LLM works and how we can implement them in our code were taught. CS50Finance (Harvard CS50): We were supposed to make a Website development for stock trading. Where user can search for stocks, make purchases, and make sales. The website was developed utilizing Python, HTML, and IEX data. Red Flags: My task was to form a website which would give Potential diagnosis of back discomfort. The user can select from a set of problems and the model will give out the treatments, symptoms, the causes, and the risk factors. The construction of a diagnostic LangChain Chain was another project which involved the application of search and LLM techniques where after the user enters the symptoms the model replies with its description and it was AI generated. Symptom Checker: This assignment entailed creating a module that lets users choose symptoms, identify back pain-related symptoms, check for red flags, and conduct interviews using the OPQRST and VINDICATE acronyms. In addition to this, questions of a psychological and functional nature were also posed. Up to this point, the challenge for us has been developing a website that, when requested, provides a response from an artificial intelligence. The LLM technology was utilized extensively for the majority of these projects and activities. Symptom Checker (updated): The updated symptom checker includes symptoms the user is experiencing. After this the user is supposed to answer a few questions. The diagnosis information consists of a paragraph generating all the information about the responses given by the user. RedFlags (Updated): The code now runs in the original Back Pain App which was designed by the company. AI Generated Questions: AI generates many entities. The AI generated medical queries using the OPQRST and VINDICATE acronyms. LangChain accomplished it.

Objectives of the project: AI driven app development- backpain

Tool used: Azure, openai, VScode

Details of Papers/patents: -

Brief description of the working environment: The company as well as the mentors were very supportive and professional. They made sure everyone was well settled and aware of the work. I learnt AI App development during my PS1, which was very helpful.

Academic courses relevant to the project: Machine learning

Learning Outcome: Using llms AI into app development

PS-I station: TEVA - MIS/Dashboard , Mumbai

Student

Name: ANIRUDH ANAND .(2021B3A70981P)

Student Write-up:

PS-I Project Title: MIS - Dashboard

Short Summary of work done: Using Excel, I made a consolidated Dashboard of multiple KPIs such as Savings, Spend, Working Capital Benefit etc. in a modular and automatic manner, with the file automatically being updated based on the changing source data.

Objectives of the project: To create a consolidated Dashboard with the KPIs shown by the company.

Tool used: Excel

Details of Papers/patents: N/A

Brief description of the working environment: Excellent working environment, with a hospitable and generous workplace, provided us with amenities such as lunch and the HR and environment was extremely friendly.

Academic courses relevant to the project: Econometric Methods

Learning Outcome: Linear Regression, Excel, Data management, Key Performance indicators, Applied Finance

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PS-I station: TEVA - Supply Market Research , Mumbai

Student

Name: ABHIRAM K NITIN .(2021A5PS0393P)

Student Write-up:

PS-I Project Title: Supply Market Research

Short Summary of work done: Heavily involved in identifying potential suppliers, engaging with them frequently, understanding their business overlap with TEVA's interests and requirement, conduct financial due diligence, create a dashboard of all information which updates automatically

Objectives of the project: - Establish strong supplier relations in the APAC region - Create an interactive and live updating dashboard

Tool used: MS Excel

Details of Papers/patents: None

Brief description of the working environment: Good working environment, friendly and helpful supervisors, great corporate working experience

Academic courses relevant to the project: Fundamentals of Accounting and Finance

Learning Outcome: Supply Chain Management , MS Excel

PS-I station: TEVA - Supply Market Research , Mumbai

Student

Name: JYOTIRADITYA VAISH .(2021B1A42280P)

Student Write-up:

PS-I Project Title: Shshaa

Short Summary of work done: Ssbjsjdmd

Objectives of the project: Ajalllfkkx

Tool used: Smakalls

Details of Papers/patents: Shsnamams

Brief description of the working environment: Dmdldsal

Academic courses relevant to the project: Zjzkslss

Learning Outcome: Aalamajdjdjd sjajakkaka

PS-I station: Tulip Diagnostics Private Limited , Goa

Student

Name: SHIVASISH MISHRA .(2021A5PS2680P)

Student Write-up:

PS-I Project Title: An Analysis on Rheumatoid Arthritis and how Tulip diagnostics helps in detecting it.

Short Summary of work done: First I began my work by touring the factory and understood what all products are being manufactured. Once factory tour is was done then I focussed my work on Rheumatoid Arthritis diagnosis process starting with how Tulip Diagnostics Pvt. Ltd. diagnose rheumatoid arthritis. After that we read research papers available online on rheumatoid arthritis. Then we started recording the learnings through the research papers and finally submitted a report on it. Also going through research paper I came across novel methods of diagnosis of rheumatoid arthritis that too was mentioned in the final report.

Objectives of the project: Diagnosis of Rheumatoid Arthritis.

Tool used: N/A

Details of Papers/patents: N/A

Brief description of the working environment: Tulip Group as a whole has a healthy and friendly environment. Staff over there are quite friendly and also quite approachable whenever required. They are eager to share their vast experience in the field of diagnosis. Overall working conditions are good.

Academic courses relevant to the project: Introduction to Molecular Biology and Immunology. (PHA-F215)

Learning Outcome: Understood the diagnosis of Rheumatoid Arthritis and also learnt about novel methods to diagnose Rheumatoid Arthritis.

PS-I station: Weschel Pharma , Mathura

Student

Name: AAYUSH MITTAL .(2021B2A40894P)

Student Write-up:

PS-I Project Title: Digitizing Health: Leveraging Digital Marketing For Optimal Patient Engagement

Short Summary of work done: This study investigates how Weschel Pharma, a healthcare advisory company, may best use social media marketing to increase engagement and visibility. Platform optimization, content strategy, brand awareness, audience targeting, social media analytics, influencer marketing, community building, and digital marketing channels are among the key project areas that are examined. The study advances our understanding of social media marketing in the healthcare industry and offers insightful information to healthcare consultancy companies looking to improve their marketing plans.

Objectives of the project: 1-Analysing and optimizing social media platforms.2-Developing an audience-targeting strategy.3- - Enhancing brand awareness through social media marketing.4- Leveraging social media analytics for data-driven Decision-making. 5- Driving engagement through interactive & community-building initiatives.6-Increasing awareness through digital marketing channels

Tool used: Photoshop, Canva, Excel, Google Analytics

Details of Papers/patents: NA

Brief description of the working environment: The working environment was very professional. We had weekly meets with our mentor who guided us in every way possible and gave insights about the industry and how it globally works. The company's project was a collaborative effort by all the interns and thus helped us instill a sense of teamwork and time management. Also, the project helped me understand niche design and with the design tools, allowed me to explore a new stream and thus helped me figure out my interests.

Academic courses relevant to the project: BITSC221/BITS C231/BITS C241

Learning Outcome: 1-Understanding Digital Marketing Landscape
2-Social Media Management
3-Content Creation
4-Pay-Per-Click (PPC) Advertising
5-Data Analytics
6-Reporting and Presentation Skills
7-Communication Skills

PS-I station: Weschel Pharma , Mathura

Student

Name: KRISHNAM GUPTA .(2021B2A42307P)

Student Write-up:

PS-I Project Title: MEDISTRAT: DRIVING COST - EFFECTIVE DIGITAL MARKETING IN MEDICAL CONSULTANCY

Short Summary of work done: The "MediStrat: Driving Cost-Effective Digital Marketing in Medical Consultancy" project aimed to enhance Wecshel Pharma's digital marketing efforts by implementing cost-effective strategies tailored to the medical consultancy industry. The project team conducted in-depth research and analysis to understand the target audience and the competitive landscape. The project began with a thorough assessment of Wecshel Pharma's current digital marketing practices, identifying areas for improvement and opportunities for growth. Through market research and audience segmentation, the team refined the target audience and crafted personalized content to resonate with specific customer segments. Content marketing played a pivotal role in establishing Wecshel Pharma as a thought leader within the industry. The team developed valuable and informative content, including blog articles, white papers, and industry reports, to engage the audience and foster credibility. Digital marketing channels such as social media, search engine optimization (SEO), and email marketing were strategically utilized to maximize brand visibility and lead generation. The team leveraged marketing automation tools to streamline workflows, optimize lead nurturing, and deliver personalized communications to potential clients.

Objectives of the project: The successful implementation of the MediStrat project will have far-reaching implications for Wecshel Pharma and the medical consultancy industry. By embracing cost-effective digital marketing strategies, Wecshel Pharma can gain a competitive edge, expand its market presence, and establish itself as a trusted and authoritative player in the industry. The project's outcomes will directly contribute to the improved delivery of advisory services to hospitals and healthcare organizations, enabling them to make informed decisions, enhance operational efficiency, and ultimately improve patient care outcomes.

Tool used: Social Media Management: Hootsuite, Buffer, Sprout Social Communication & Collaboration: Slack, Microsoft Teams, Trello Analytics & Reporting: Google Analytics, Social media insights Content Creation: Adobe Creative Suite, Canva

Details of Papers/patents: Nil

Brief description of the working environment: The working environment at Wecshel Pharma, a small-scale medical advisory firm, is dynamic and collaborative, fostering a culture of innovation and continuous learning. As an intern working on the "MediStrat: Driving Cost-Effective Digital Marketing in Medical Consultancy" project, you can expect a supportive and inclusive atmosphere, where your contributions are valued, and you are encouraged to take ownership of your tasks.
The company places a strong emphasis on professional development, providing ample opportunities for learning and growth. You will have access to mentorship and guidance from experienced professionals in the medical consultancy and digital marketing fields, enabling you to enhance your skill set and broaden your industry knowledge.
Expectations from the company are centered around dedication, creativity, and a results-driven mindset. You will be expected to actively participate in project discussions, contribute innovative ideas, and execute digital marketing strategies with a focus on cost-effectiveness and measurable outcomes. The company values a proactive and adaptable approach, as you will have the chance to experiment with new digital marketing tools and techniques to optimize campaigns.

Academic courses relevant to the project: Nil

Learning Outcome: The learning objectives of "MediStrat: Driving Cost-Effective Digital Marketing in Medical Consultancy" are to equip participants with essential knowledge and skills in cost-effective digital marketing practices specific to the medical consultancy industry. The project aims to enable us to understand various digital marketing concepts, channels, and strategies relevant to their field. Participants will gain insights into effective target audience segmentation and personalized messaging to enhance audience engagement and conversion rates. The project emphasizes the importance of cost-effectiveness in digital marketing initiatives, teaching learners innovative approaches to optimize budgets and resources while maximizing return on investment. Participants will learn about content marketing and search engine optimization (SEO) strategies to boost brand visibility and establish thought leadership within the medical consultancy sector.

PS-I station: Weschel Pharma , Mathura

Student

Name: MUDIT SHARMA .(2021B3A22319P)

Student Write-up:

PS-I Project Title: MediStrat: Driving cost - effective digital marketing in medical consultancy

Short Summary of work done: During my internship, I managed and elevated the company's social media presence, utilizing effective tools like Hootsuite, Buffer, and Sprout Social. I curated and scheduled engaging content, ensuring consistency across social media channels and resulting in increased engagement, a growing follower base, and heightened brand visibility. In addition to social media management, I served as a communication channel between company management and fellow interns, optimizing coordination and collaboration. Data-driven insights from tools like Google Analytics and social media analytics allowed me to propose effective strategies, enhancing our overall digital marketing efforts. Throughout the internship, I stayed attuned to all digital marketing team activities, preparing a collective deliverable and proposal for management. Our cohesive and results-oriented approach impressed management with meticulous planning and execution. The internship not only honed my technical skills but also improved communication, professional ethics, and people skills. Working in a dynamic team environment taught me the value of effective teamwork, and I gained valuable insights into marketing strategy and execution. This experience has enriched my knowledge and prepared me for future challenges in the digital marketing landscape.

Objectives of the project: Facilitate smooth communication, assist in daily operations, recommend strategies, and prepare collective deliverables for the digital marketing team while enhancing communication, professional ethics, and people skills.

Tool used: Social Media Management: Hootsuite, Buffer, Sprout Social Communication & Collaboration: Slack, Microsoft Teams, Trello Analytics & Reporting: Google Analytics, Social media insights Content Creation: Adobe Creative Suite, Canva

Details of Papers/patents: NA

Brief description of the working environment: The working environment during my internship was dynamic and collaborative, fostering a positive atmosphere that encouraged creativity and teamwork. The company provided a supportive platform for interns to voice their ideas and contribute meaningfully to projects. Open communication channels allowed for effective coordination and ensured that everyone was aligned with the company's goals.
Expectations from the company were clear and realistic, allowing us to focus on tasks with a sense of purpose. Regular feedback and guidance from experienced professionals

helped us understand our progress and areas for improvement. The company's commitment to providing valuable learning experiences created a conducive environment for personal and professional growth.
Throughout the internship, I had the opportunity to learn and apply various digital marketing tools and strategies. Hands-on experience with social media management platforms, data analytics tools, and project management software strengthened my technical skills. Moreover, I honed my communication and interpersonal skills by collaborating with team members and acting as a liaison between management and interns.
The internship also provided insights into real-world marketing challenges, enabling me to think critically and strategically when making recommendations. Working in a diverse team allowed me to appreciate different perspectives and embrace the value of teamwork in achieving common objectives.
Overall, the internship was an invaluable learning experience. I acquired practical skills, enhanced my professional ethics, and gained confidence in my abilities. The nurturing and challenging working environment, coupled with clear expectations and ample learning opportunities, made this internship a truly enriching and rewarding journey.

Academic courses relevant to the project: NA

Learning Outcome:
1. Improved communication, collaboration, and coordination skills through acting as a liaison between management and interns.
2. Enhanced strategic thinking and problem-solving abilities by making recommendations for future courses of action in digital marketing.
3. Proficiency in preparing collective deliverables, fostering teamwork, and developing professional ethics within a dynamic work environment.

PS-I station: Weschel Pharma , Mathura

Student

Name: SANSKAR SINGHAL .(2021B3AB0807P)

Student Write-up:

PS-I Project Title: Digitising Health

Short Summary of work done: Created a digital platform for the company and consult in the Growth of the company

Objectives of the project: creating a digital platform for the company aong with operation work

Tool used: Phoshop, excel , figma , SEO etc.

Details of Papers/patents: NA

Brief description of the working environment: healthy, constructive and inclusive working environment

Academic courses relevant to the project: POM

Learning Outcome: Teamwork, people management, and time management

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PS-I station: Weschel Pharma , Mathura

Student

Name: SAMARTH SAHU .(2021B4A41539P)

Student Write-up:

PS-I Project Title: ConnectCare : Driving Engagement and Awareness via Social Media Marketing

Short Summary of work done: The study explored the effectiveness of social media marketing for driving engagement and awareness in the context of Weschel Pharma, a healthcare advisory firm. It investigates key project areas, including platform optimization, audience targeting, content strategy, brand awareness, social media analytics, influencer marketing, community-building, and digital marketing channels. By analyzing social media platforms, defining target audiences, creating compelling content, improving brand recognition, utilizing analytics, collaborating with influencers, fostering engagement, and leveraging digital channels.

Objectives of the project: Analyze the digital marketing and social media landscape for healthcare centers in Mathura and identify best practices. Explore existing digital marketing solutions implemented by healthcare centers in Agra. Conduct a cost-to-benefit analysis to evaluate the potential ROI for Weschel Pharma's digital marketing efforts. Develop a roadmap outlining actionable steps and timelines for implementing digital marketing strategies.

Tool used: Social media platforms like LinkedIn and Facebook, Google Analytics, and Canva/Figma for creating digital designs.

Details of Papers/patents: https://doi.org/10.5958/2249-7315.2016.00856.X https://doi.org/10.5958/2249-7315.2016.00856.X

Brief description of the working environment: The quality of work at the station has been as per my expectations, and all evaluative components have been productive with ample guidance from both the instructor and the mentor. There was fluid communication between the organization and the interns with no lack of guidance at any point.

Academic courses relevant to the project: Probability and Statistics
Principles of Economics

Learning Outcome: Gained hands-on experience in nuances of the marketing sector as well as the healthcare sector. Also achieved an understanding of marketing demands in a tier two city like Mathura by studying relevant papers on psychography.

PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: HARSH SINGH .(2021A3PS1725P)

Student Write-up:

PS-I Project Title: 3% Nacl dosage in patients with cerebral edema

Short Summary of work done: My work in this PS station began with analying the work that Yashoda Hospital does. I went through the website which our VIVA was based on. After that I had to compile and talk about a previous year project fir the GD. Apart from this I went through a ton of research papers analyzing the complex mechanism of cerebral edema and its treatments.

Objectives of the project: To develop a model for cerebral edema and hence design formulas for adequeate dosage of Nacl

Tool used: N/A

Details of Papers/patents: N/A

Brief description of the working environment: The work environment was mostly relaxed and our Faculty was very helpful. The Mentor was helpful too but a little less available which is understandable due to the nature of this job.

Academic courses relevant to the project: General Biology

Learning Outcome: I learnt about the mechanism of Cerebral Edema and how it is treated

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PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: ROHIT RAJESH AGRAWAL .(2021A3PS2662P)

Student Write-up:

PS-I Project Title: 3% NaCl dosage in patients with cerebral edema and target factor controlling Na

Short Summary of work done: Our project was research-oriented. We had to find and read relevant research papers related to our projects. Conducted comprehensive research and analysis on the treatment of cerebral edema using hypertonic solutions of 3% , 7% , and other relevant concentrations. Performed extensive analysis on treatment

strategies for hypernatremia resulting from the treatment of cerebral edema. Studied about the sodium losses through renal excretion in hypernatremia.

Objectives of the project: To research and analysis on the treatment of cerebral edema using 3% hypertonic solutions

Tool used: Google slides, Power point presentation

Details of Papers/patents: No

Brief description of the working environment: It was overall a very fruitful and character-building experience. As our PS-1 station was online, there was not much interaction with the doctor at Yashoda Hospital, but the mentor was quite good and helpful. Our PS faculty was quite interactive and helpful. He helped us find relevant research papers and also taught us how to go about finding relevant papers.
Great experience overall.

Academic courses relevant to the project: NA

Learning Outcome: I learned more about the healthcare industry. Reading reliable research papers. I improved my soft skills by giving presentations and seminars. I also learned how to work in teams and meet deadlines.

PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: GAURANG KARWANYUN .(2021A4PS1332P)

Student Write-up:

PS-I Project Title: Nutritional optimization of patients with severe TBI

Short Summary of work done: During my internship, I focused on the nutritional optimization of patients with severe Traumatic Brain Injury (TBI) and developed a mobile application to provide customized protein requirements for these patients. The working environment was collaborative and innovative, with a strong dedication to improving

patient outcomes. My responsibilities included conducting in-depth research on TBI patients' nutritional needs and collaborating with healthcare professionals and app developers to design the mobile application. The app considered factors like age, weight, severity of injury, and medical history to calculate personalized protein intake guidelines in real-time. Throughout the internship, I actively participated in data collection, validation, and testing to ensure the app's accuracy and reliability. I sought feedback from healthcare practitioners to improve the app's performance continually. The internship provided valuable opportunities for professional growth and honed my skills in research, teamwork, and app development. I am proud to have contributed to a project with the potential to positively impact the recovery and well-being of patients with severe Traumatic Brain Injury.

Objectives of the project: Make an mobile application providing optimum protein requirements of patient with severe TBI and monitoring and adjusting our estimations based on nitrogen balance in the body

Tool used: Flutter

Details of Papers/patents: 1. Nutrition Therapy, Glucose Control, and Brain Metabolism in Traumatic
Brain Injury: A Multimodal Monitoring Approach
https://www.frontiersin.org/articles/10.3389/fnins.2020.00190/full
2. Nutritional Treatment for Traumatic Brain Injury
https://www.rese

Brief description of the working environment: During the internship, the working environment was collaborative and innovative, with a strong focus on improving patient outcomes. The company expected interns to actively learn about Traumatic Brain Injury and conduct research. Interns contributed to developing a mobile application for nutritional optimization, working alongside healthcare professionals and app developers. They were accountable for their tasks, maintained confidentiality, and embraced adaptability. Quality assurance and testing were emphasized, ensuring the app's accuracy. The internship provided opportunities for professional growth, fostering a rewarding and impactful experience in the field of healthcare and app development.

Academic courses relevant to the project: Computer Programming, General Biology

Learning Outcome: App development, TBI treatment and nutritional requirements

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PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: RAJ ABHIMANYU SINGH .(2021A4PS1377P)

Student Write-up:

PS-I Project Title: 3% NaCl dosage in patients with cerebral edema and target factor controlling Na

Short Summary of work done: We wanted to maintain a certain level of sodium in the body but we were unable to do it as there were sodium losses in body of which the major part was due to the sodium losses through urine. To achieve the required target we were needed to find out how much excess sodium we have to give. We went through a lot research paper to gather the data and then later derived a formula which could provide us the required dosage.

Objectives of the project: The objective for our project is to correct 3% NaCl dosage in patients with cerebral edema osmotherapy and target factors controlling Na, majorly compensating for the urinary sodium losses.

Tool used: Google Docs and Slides, Google schlor.

Details of Papers/patents: NA

Brief description of the working environment: The working environment was very helpful. We were consistently in touch with our mentor and he also was very helpful.The company expected us to find out the dosage of 3% HTS for the treatment of cerebral edema after considering the sodium losses through urine.

Academic courses relevant to the project: NA

Learning Outcome: Learnt about Cerebral edema and its various treatment and how to work and communicate in a group.

PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: ANUSHKA SHUKLA .(2021A5PS0380P)

Student Write-up:

PS-I Project Title: Nutritional Optimisation for TBI patients

Short Summary of work done: Using a list of techniques and formulas regarding nitrogen balance, body weight estimation, determination of protein target, calculation of estimated protein intake amongst other things, we created an app that can give the diet plan for TBI patients

Objectives of the project: To optimise nutritional intake of TBI patients and suggest them a diet plan through an app

Tool used: -

Details of Papers/patents: https://www.mdcalc.com/calc/4011/nutrition-risk-critically-ill-nutric-score
https://www.mdcalc.com/calc/1868/apache-ii-score
https://www.mdcalc.com/calc/691/sequential-organ-failure-assessment-sofa-score

Brief description of the working environment: As my PS was online, there was problem in reaching out to yeh mentor again and again. The doctors working in ICU didn't have a lot of time to spare for us. But as and when required, they were direct and patient with what they require.

Academic courses relevant to the project: None

Learning Outcome: Learnt Python and App Development

PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: TANVI GUPTA .(2021A5PS1445P)

Student Write-up:

PS-I Project Title: 3% NaCl dosage in patients with Cerebral Edema and target factors controlling Na levels

Short Summary of work done: During the initial days of ps1 , we learnt about basic information about cerebral edema,symptoms and resulting effects , major causes of cerebral edema such as traumatic brain injury , ischemic stroke , hemorrhagic strokes , infection and tumors. We also researched about the reagents used for its treatment such as hypertonic saline solution and mannitol. We took into consideration mainly 3 percent and 7 percent hypertonic saline solution but studied about concentrations varying from 3 percent to 23.4 percent in the numerous research papers we read . We also studied about the effects of cerebral edema and its seriousness . Another factor we studied about in detail was intracranial pressure (ICP) in which we majorly explored the comparison of changes in intracranial pressure caused by different concentrations of hypertonic saline solution given as treatment . Non pharmacological treatment of cerebral edema and side effects of HTS were also studied . In midst of all these studies we had google meets , group discussions and presentations from time to time . We also had to submit the ps diary attentively . For mid semester evaluative , we had to prepare a presentation on the following topics after doing good amount of research : hypernatremia and its causes , why hypernatremia has to be considered in cerebral edema treatments , signs and symptoms of hypernatremia , diagnosis , and the three kinds of treatments for hypernatremia were studied in detail . We also studied about handling of urinary losses in hypernatremia . We also studied about renal sodium excretion and various hypernatremia case studies as well.

Objectives of the project: 3% NaCl dosage in patients with Cerebral Edema and target factors controlling Na levels

Tool used: NA

Details of Papers/patents: NA

Brief description of the working environment: The working environment during ps1 was positive and conducive to productivity. There were google meets conducted on a regular basis for group discussions and project work throughout . We also had to prepare presentations and present them from time to time which helped in building confidence and poise , public speaking skills , time management and active listening skills too but most important of all we learnt a lot about research by reading many research papers and finding out important data from it .

Ps1 provided valuable learning opportunities for us. We had the chance to apply theoretical knowledge to real-world scenarios, develop practical skills relevant to our field of study, and gain industry insights. We learned about the hospital's operations, industry trends, and best practices. We also had the opportunity to network with doctors from the hospital , enhance our professional etiquette, and develop critical thinking skills. The internship facilitated self-reflection and career exploration, allowing us to assess our strengths, weaknesses, and career interests.
We had a faculty in charge and a mentor who provided guidance and feedback throughout the internship.
Overall, the working environment was positive, the hospital had clear expectations, and I gained valuable learning experiences during the ps1.

Academic courses relevant to the project: NA

Learning Outcome: Major learning outcomes of this ps1 were it helped in enhancing knowledge about cerebral edema and its various treatment methods in detail , hypernatremia and intracranial pressure , renal sodium excretion and its causes , healthcare systems and operations , research and evidence based practice , communication and interpersonal skills .

PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: RAKSHIT AGGARWAL .(2021A7PS1458P)

Student Write-up:

PS-I Project Title: 3% NaCl dosage in patients with cerebral edema and target factor controlling

Short Summary of work done: We studied Cerebral Edema, its causes, effects, treatment, etc. Also, then, we have accounted for urinary sodium losses in cerebral edema osmotherapy treatments. Created a formula to do so.

Objectives of the project: 3% NaCl dosage in patients with cerebral edema and target factor controlling

Tool used: None

Details of Papers/patents: Many, pertaining to Cerebral edema, hypernatremia, urinary sodium levels, etc.

Brief description of the working environment: Projects are interesting,, you can learn a lot. But, doctors are a bit hard to get hold of. Though, when you interact with them, they will explain it to you well. They are very helpful, it is just that they are not always free to cater to all your needs. Take maximum input from whichever meet you have with the mentor, since, you never know when the next meet will happen.

Academic courses relevant to the project: None

Learning Outcome: Learnt to read research papers interpret results, connecting data. I learnt to lead a team of five effectively. Key outcomes include enhanced communication, collaboration, and conflict resolution skills. I also developed expertise in delegation, time management, decision-making, and performance evaluation.

PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: Saavi Deshpande(2021A7PS2436P)

Student Write-up:

PS-I Project Title: Nutritional optimisation of patients with severe TBI

Short Summary of work done: After reviewing numerous research papers on nutritional optimization for critically ill patients, we identified several established methods and devised a comprehensive workplan to predict and monitor protein levels. Subsequently, we focused on creating an application based on these formulas to facilitate protein level management in critically ill individuals.

Objectives of the project: Monitoring the nutrition of patients with TBI

Tool used: Flutter

Details of Papers/patents: Research papers on Nutritional optimization, NUTRIC score, APACHE II, 24-hr Urine test etc

Brief description of the working environment: Projects provide valuable learning opportunities. Interacting with doctors yield excellent explanations and support, although their availability might be limited. Make the most of each mentor meeting as their schedules vary. Gather maximum input during each encounter to capitalize on the knowledge shared.

Academic courses relevant to the project: Computer programming

Learning Outcome: Reading research papers, learning app development

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PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: SHASHWAT APTE .(2021AAPS1469P)

Student Write-up:

PS-I Project Title: Nutritional optimization in severe TBI patients

Short Summary of work done: Working on an app development project for nutritional optimization in severe Traumatic Brain Injury (TBI) patients was a challenging yet rewarding experience. The aim was to create a user-friendly and intuitive mobile application that could assist healthcare professionals in tailoring personalized nutrition plans for TBI patients, promoting their recovery and overall well-being. The first phase of the project involved extensive research into TBI and its impact on nutrition. Understanding the unique nutritional needs of these patients was crucial in developing the right features for the app. Collaborating with our mentor allowed us to gain valuable insights and ensure that our app would be evidence-based and effective. The heart of the app was a sophisticated algorithm that analyzed patient data, such as age, weight, medical history,

and current condition, to generate personalized nutrition plans. Implementing this algorithm required a deep understanding of both nutrition and programming, and the collaboration between nutrition experts and app developers was essential to strike the right balance. The app's design had to be simple and accessible, given that it would be used by healthcare providers in various settings, including hospitals and rehabilitation centers. User interface (UI) and user experience (UX) design played a significant role in achieving this goal, ensuring that medical professionals could easily navigate the app and input patient data to receive tailored nutritional recommendations. Witnessing the positive impact of the app on TBI patients' lives was truly fulfilling. Knowing that our work was contributing to their nutritional optimization and potentially improving their recovery journey was incredibly rewarding. The project reinforced the significance of teamwork, interdisciplinary collaboration, and technological innovation in addressing real-world health challenges. Ultimately, working on this app development project not only sharpened our technical skills but also ignited a sense of purpose and fulfillment in applying technology to make a meaningful difference in people's lives.

Objectives of the project: To get to learn about TBI and nutritional therapy, and make an app that helps with nutrition of tbi patients

Tool used: Flutter

Details of Papers/patents: https://www.mdcalc.com/calc/4011/nutrition-risk-critically-ill-nutric-score
https://www.mdcalc.com/calc/1868/apache-ii-score
https://www.mdcalc.com/calc/691/sequential-organ-failure-assessment-sofa-score
https://www.webmd.com/a-to-z-guides/what-to-know-ab

Brief description of the working environment: Yashoda Hospitals emphasized the importance of teamwork and effective communication among healthcare professionals. I was encouraged to collaborate with multidisciplinary teams, enhancing my understanding of Biology as well as app development.
Yashoda Hospitals also provided access to various training programs and workshops to further develop our medical knowledge and skills. These learning opportunities were well-structured and complemented the practical experiences during the internship. The hospital encouraged interns to ask questions and seek clarification, fostering a positive learning environment.
Overall, my PS-I experience at Yashoda Hospitals was a valuable stepping stone in my medical education and career. It allowed me to apply classroom learning to real-life situations and gain exposure to diverse medical field. The supportive working environment and focus on continuous learning made the experience enriching and fulfilling.

Academic courses relevant to the project: General biology, computer programming

Learning Outcome: We got to learn about TBI, nutritional therapy and app dev.

PS-I station: Yashoda Hospitals - II , Hyderabad

Student

Name: ANKITA VAISHNOBI BISOI(2021B1A72306G)

Student Write-up:

PS-I Project Title: Nutritional optimization of patients with severe TBI

Short Summary of work done: In this project, we conducted extensive research on Traumatic Brain Injury (TBI) and the efficacy of nutrition therapy for patients with severe TBI. By studying various research papers, we gained proficiency in providing tailored nutrition therapy to meet the specific needs of TBI patients. Our approach was rooted in evidence-based practices to ensure optimal patient care. To improve protein level management in critically ill individuals, we devised a comprehensive work plan. This plan incorporated established methods from the reviewed research papers to predict and monitor protein levels effectively. Building on this knowledge, we developed an intuitive mobile application with a user-friendly interface. The app utilizes formulas derived from physical factors reported by patients to accurately calculate the required amount of protein. Through this project, we aimed to enhance the delivery of nutrition therapy for TBI patients by leveraging technology to predict and optimize protein levels. The app's development and implementation represent a step towards streamlining nutritional support for critically ill individuals, ultimately contributing to improved patient outcomes and well-being.

Objectives of the project: Develop an app based system to accurately calculate nutrient requirements of patients with severe Traumatic Brain Injury

Tool used: Flutter

Details of Papers/patents: none

Brief description of the working environment: Projects are interesting,, you can learn a lot. But, doctors are a bit hard to get hold of. Though, when you interact with them, they will explain it to you well. They are very helpful, it is just that they are not always free to

cater to all your needs. Take maximum input from whichever meet you have with the mentor, since, you never know when the next meet will happen.

Academic courses relevant to the project: CS F111 Computer Programming
BIO F111 General Biology

Learning Outcome: 1. Understanding TBI's impact on patients and its neurological consequences.
2. Proficiency in providing tailored nutrition therapy for TBI patients.
3. App development and user interface design skills.
4. Data analysis and continuous improvement of the app.
5. Utilizing evidence-based practices in nutrition therapy for TBI patients.
6. Enhancing patient outcomes and well-being through improved nutritional support.

PS-I station: Yashoda Hospitals - III , Hyderabad

Student

Name: KAUSTUBH SRIVASTAVA .(2021A3PS2649P)

Student Write-up:

PS-I Project Title: Temperature Control - TBI

Short Summary of work done: we decided to study the various sensors needed to measure the five parameters and work towards creating a conceptual design for a multiparametric probe. Our objective is to develop a comprehensive solution that integrates multiple sensors for simultaneous measurement. To complement the probe, we plan to develop a web application that facilitates data collection, analysis, and interpretation.

Objectives of the project: To develop a multiparametric sensor to monitor the vitals. To develop a website to monitor vitals

Tool used: Web development, soft skills

Details of Papers/patents: NA

Brief description of the working environment: Since it was an online internship working environment was characterized by collaborative efforts and continuous learning bolstered by the webinars conducted by PSD.

Academic courses relevant to the project: General Biology

Learning Outcome: Tech interaction with medical challenges
soft skills

PS-I station: Yashoda Hospitals - III , Hyderabad

Student

Name: YASH KUMAR KANDOI .(2021A7PS2417P)

Student Write-up:

PS-I Project Title: Traumatic Brain Injury

Short Summary of work done: The work undertaken focused on several key areas. Firstly, the objective was to develop a single sensor capable of replacing multiple sensors currently employed to measure patient vitals. This involved researching and designing a sensor that could accurately and efficiently monitor various vital signs, such as heart rate, blood pressure, and oxygen levels, among others. By consolidating multiple sensors into one, the aim was to streamline the monitoring process and enhance patient comfort. Additionally, a website was created to provide real-time notifications to doctors in the event of sudden changes in patient vitals. This involved developing a user-friendly interface that could securely transmit data from the sensor to the website, and then promptly alert the medical professionals. The goal was to improve response times and enable doctors to swiftly address critical situations. Working closely with doctors, the team sought to comprehend their challenges and identify technological interventions to address these issues. Furthermore, the project emphasized the importance of coordination and teamwork. Efforts were made to foster effective communication, task delegation, and collaboration within the team. Through regular meetings, feedback sessions, and shared responsibilities, the team aimed to maximize productivity and ensure the successful implementation of the project. Finally, soft skills were emphasized

throughout the work. This included enhancing communication, problem-solving, and leadership abilities, as well as fostering empathy and adaptability.

Objectives of the project: - To find a single sensor that can replace multiple sensors currently used to measure patient vitals, - To prepare a website that can notify the doctors if there is a sudden change in patient vitals.

Tool used: Hardware- None. Software- Backend development: Django, Frontend Development: HTML, CSS,React

Details of Papers/patents: NA

Brief description of the working environment: In the online mode, the working environment was characterized by collaboration and a strong emphasis on continuous learning.
The company had certain expectations from us in this online working environment. Collaborative efforts were highly valued, with an emphasis on sharing knowledge, ideas, and insights to foster innovation and problem-solving. Team members were encouraged to actively engage in discussions, provide constructive feedback, and support each other's growth.
Continuous learning was a fundamental aspect of the working environment. The college expected us to actively seek opportunities for personal and professional development, whether through online courses, webinars, or self-study. This commitment to learning was seen as essential to staying up-to-date with the latest advancements in technology, healthcare practices, and relevant domains.
Overall, the online working environment fostered a collaborative and learning-oriented culture. By embracing teamwork, continuous learning, adaptability, and effective communication, employees were able to thrive in this mode and contribute to the company's success in delivering innovative solutions in healthcare.

Academic courses relevant to the project: Computer Programming, General Biology

Learning Outcome: - Getting to know about various diseases affecting the brain.
- Working with the doctor to understand their problems and finding out the solutions through technology
- How to coordinate and work with a team
- Soft skills

PS-I station: Yashoda Hospitals - III , Hyderabad

Student

Name: WADAJKAR SHARDUL SHAILENDRA .(2021A7PS2419P)

Student Write-up:

PS-I Project Title: Remote Cardiac Monitering

Short Summary of work done: We made a prototype of an Electrocardiogram and then used the signals generated by this device as input for a machine learning model which we trained to detect any Arrhythmic activities. This ECG signal is then transmitted to a website which can be accessed by doctors and patients to discuss the treatment.

Objectives of the project: To remotely monitor cardiac activities

Tool used: MATLAB, ElectronJS

Details of Papers/patents: DOI 10.1007/s10916-016-0644-9

Brief description of the working environment: Nice

Academic courses relevant to the project: Digital Design

Learning Outcome: Working of an ECG, Machine Learning(Classification model)

PS-I station: Yashoda Hospitals - III , Hyderabad

Student

Name: RAJ JAIN(2021A7PS2812H)

Student Write-up:

PS-I Project Title: Remote Cardiac Monitoring

Short Summary of work done: programmed and designed a hardware to collect heartbeat data from patient, designed a machine learning model to detect abnormal heartbeat and then create a web site where patients can upload their ecg and doctors can monitor that data live remotely.

Objectives of the project: To collect live ecg data using hardware then applying machine learning model to predict vitality and then upload and store data through a live website.

Tool used: Arduino nano, node js , electron js, mongodb.

Details of Papers/patents: NA

Brief description of the working environment: It was an online internship, company had high expectations

Academic courses relevant to the project: web development , database systems .

Learning Outcome: Web Development, Arduino coding , machine Learning, Database Systems.

PS-I station: Yashoda Hospitals - III , Hyderabad

Student

Name: SWARUP KUMAR BHUYAN .(2021A7PS2821H)

Student Write-up:

PS-I Project Title: TEMPERATURE CONTROL for Traumatic Brain Injury patients

Short Summary of work done: Carried ot extensive research to figure out the ways to reduce the number of invasive probes used un the critical care units and how to design a multi parameter probe that would be able to measure the vitals of the ICU patients easily. Came up with ideas such as NIRF spectroscopy and Capnography and pitched it to the doctors and they also assisted us in remodelling it . A patient-nurse/patient/-doctor interface was also built which would send automatic notifications in case of abnormal temperature rise in patients body .

Objectives of the project: To design a minimally invasive system that performs continual monitoring of the vital parameters of a TBI patient and alert Doctors of abnormalities.

Tool used: Research based project

Details of Papers/patents: N.A

Brief description of the working environment: The mode of PS was online , so we had to interact with our mentors via online meets only and all the required communication was done in virtual mode . The company had assigned us to come up with some sort of a design which would reduce the number of invasive probes thereby reducing discomfort of the patients . We were able to carry out some research and present to the doctors our idea about this via NIRF spectroscopy and capnography techniques .

Academic courses relevant to the project: NONE

Learning Outcome: Got to know about the functionalities of the critical care units in hospitals and how invasive and non invasive techniques are used in treatment .

PS-I station: Yashoda Hospitals - III , Hyderabad

Student

Name: SANTRUPTI BEHERA .(2021AAPS1724H)

Student Write-up:

PS-I Project Title: Remote Cardiac Monitoring System

Short Summary of work done: Development of ecg like data acquisition model using MATLAB and implementation of supervised ML algorith for early prediction of arrhythmia.

Objectives of the project: Early prediction of arrhythmia

Tool used: ML algorithms, MATLAB

Details of Papers/patents: No

Brief description of the working environment: -

Academic courses relevant to the project: ML, Signals and Systems

Learning Outcome: ML, MatLab, Signal Processing, Web Development, Teamwork

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PS-I station: Yashoda Hospitals - III , Hyderabad

Student

Name: ADITHYASHAILENDER UMESH .(2021AAPS2220H)

Student Write-up:

PS-I Project Title: TBi - Temperature control

Short Summary of work done: The project revolves around enhancing the management and recovery of traumatic brain injury (TBI) patients by monitoring crucial physiological parameters. Maintaining appropriate temperature, blood pressure, blood CO2, blood glucose, and blood O2 levels is vital for patient care. However, the current invasive methods, involving multiple probes, pose risks of infection and discomfort. The project's goal is to minimize these risks by reducing invasive probes and employing non-invasive methods. Our time was spent on researching patient risks for new non invasive devices and creating a web portal for the easy display of this data.

Objectives of the project: To create a system of non invasive probes to monitor patient parameters

Tool used: Django , Google Oauth , Tailwind CSS

Details of Papers/patents: Nil

Brief description of the working environment: I found the working environment to be highly dynamic and collaborative. We had the privilege of collaborating with doctors who are passionate about their ideas and are willing to extend a large amount of help towards

the project.They placed great expectations on us and contributed much of their already limited time which created a very inspiring and stimulating environment to work in.

Academic courses relevant to the project: CPP , General Biology,General Chemistry

Learning Outcome: Understanding Traumatic Brain Injuries (TBI) and Medical Parameters and their Significance was the primary outcome. We also forayed into web development to create an online portal for the same

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PS-I station: Yashoda Hospitals - IV , Hyderabad

Student

Name: BHIMIREDDY SAHITHI .(2021A5PS1941H)

Student Write-up:

PS-I Project Title: AI BASED VITALS PREDICTION SYSTEM FOR ANAESTHESIA MONITORING

Short Summary of work done: The primary goal of our project was to explore the potential of AI-driven predictions in the field of anesthesia. We were able to understand the project strategy after our visit to the hospital, correspondence with the relevant teams and observation of the anesthesia machine and its features. This included establishing the correlation between anesthetic dosage and its effect on patient vitals by mapping the vital sign data to the relevant rate and volume of the anesthesia administered. To make the predictions a bit broader, we also used a publicly accessible dataset called VitalDB to train the AI model. As test data, we used the real-time information that the hospital provided.

Objectives of the project: The focus of the project is on using artificial intelligence (AI) to forecast vital signs following anesthesia administration. We attempted to create accurate and effective models that were capable of foreseeing changes in critical physiological parameters such as the electrocardiogram (ECG), respiration rate, end tidal CO2 levels, and blood pressure (BP) in response to changes in anesthesia dosage throughout a surgical procedure in an effort to enhance patient care and safety.

Tool used: -

Details of Papers/patents: -

Brief description of the working environment: Working with the Yashoda group provided me with a wonderful learning opportunity. I had the chance to learn a lot about how an organization operates and gained a lot of information under the guidance of highly qualified mentors. Together, the teamwork and communication that were necessary for learning produced the pertinent skills needed for the project. The project provided me to explore a completely new domain.
It was also an ideal platform for the development of personality, aptitude, and social skills.

Academic courses relevant to the project: -

Learning Outcome: I had an incredible opportunity to study artificial intelligence (AI) and its applications in the realm of healthcare. I was also exposed to the concept of Deep learning alongside machine learning. For the project, a number of Deep Learning architectures, including Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM), Gated Recurrent units (GRU), and Encoder-Decoder models, have been employed.

PS-I station: Yashoda Hospitals - IV , Hyderabad

Student

Name: ANIKET KHAJURIA CHAKRABARTY .(2021A5PS2529H)

Student Write-up:

PS-I Project Title: Integrated Anesthesia Depth Monitoring System

Short Summary of work done: I learnt how to integrate AI systems with current health practices. Also , i leant the Importance of digital world, team work and leadership.

Objectives of the project: To develop Integrated Anesthesia Depth Monitoring System

Tool used: Flutter , Dart

Details of Papers/patents: Nil

Brief description of the working environment: Same as objective

Academic courses relevant to the project: biology

Learning Outcome: 1. AI based system development
2. Leadership
3. Team Management
4. Communication
5. New Language learnt : Dart and Flutter

PS-I station: Yashoda Hospitals - IV , Hyderabad

Student

Name: AASHUTOSH A V .(2021A7PS0056H)

Student Write-up:

PS-I Project Title: AI BASED VITALS PREDICTION SYSTEM FOR ANAESTHESIA MONITORING

Short Summary of work done: We worked on building Deep Learning Models to predict vitals of a patient during a surgery after every 5 mins. We learnt and applied SimpleRNNs, LSTMs and GRUs in code, and also had a good theoretical learning curve.

Objectives of the project: Live AI Based Prediction of Vitals during a Surgical Procedure

Tool used: Python, PyTorch, Version Control

Details of Papers/patents: None

Brief description of the working environment: We learnt about the working of Yashoda Hospitals, and have met with some employees who were keen to explain the streamlined

workflow in the organisation. There was no pressure to complete the work, and the support was always present.

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

Learning Outcome: Machine Learning, Deep Learning, RNNs

PS-I station: Yashoda Hospitals - IV , Hyderabad

Student

Name: ABIRAM SANKAR MONAVARTHI .(2021A7PS0329H)

Student Write-up:

PS-I Project Title: AI Based Vitals Prediction System for Aesthesia Monitoring

Short Summary of work done: We had to train and test an AI model which could help anesthetists predict vitals during surgeries. We need a lot of data in order to deploy an AI or ML model, for which, we used the VitalDB Dataset which had huge, vast amounts of data available for use. We developed a few AI models on Python using Pytorch. These models differed slightly- to experiment and find out the one which would work best,and trained them with the VItalDB data. To test the models, we used the data provided by the hospital which had upto a 100 test scenarios.Our mentor was happy with the results since it was quite reliable as a second to the doctor.

Objectives of the project: To predict vitals with the help of AI to help anesthetists during surgeries

Tool used: Python, PyTorch

Details of Papers/patents: None

Brief description of the working environment:

Academic courses relevant to the project: Machine Learning, Artificial Intelligence

Learning Outcome: Learnt about Communication with an organization, working as a team, worked with Python, Pytorch. Understood and implemented Recurrent Neural Networks.

PS-I station: Yashoda Hospitals - IV , Hyderabad

Student

Name: NIKHIL DHANARAJ .(2021A7PS0427H)

Student Write-up:

PS-I Project Title: Integrated Anaesthesia Depth Monitor

Short Summary of work done: We built an app that integrates the BIS(bispectral index) monitor, which gives us the depth of amnesia administered to a patient, and the TOF(train of four) monitor, which quantifies the amount of muscle relaxant administered to the patient. Using Flutter and Dart, we built an app which can take input from both monitors and display the combined reading of the two monitors.

Objectives of the project: Integrate the BIS

Tool used: Flutter, Android Studio

Details of Papers/patents: Nil

Brief description of the working environment: Even with the demanding schedule of the doctors, they still made time to join meets online whenever possible to guide us through the project. Working as a team was an enriching experience.
The mentor was helpful and explained the requirements for the project in an easy-to-understand manner.
We learnt a lot about the working of anaesthesia and how to build applications using Flutter.

Academic courses relevant to the project: Nil

Learning Outcome: Learning how to build apps on flutter and working in a group.

PS-I station: Yashoda Hospitals - IV , Hyderabad

Student

Name: NIKHIL KRISHNA RAVURI .(2021A8PS0794H)

Student Write-up:

PS-I Project Title: Integrated Anesthesia Depth Monitoring

Short Summary of work done: Our work started with us going through PS chronicles of Yashoda to get an understanding of how the organization functions and their goals. We were alloted a mentor who gave us details about the project. We were actually given choice to choose from 3 projects and we chose Anesthesia depth monitoring as others required onsite presence. We had to build an app to take the BIS and TOF values from the doctor and checks if they are in the sufficient range or not.

Objectives of the project: Integrate three parameters of anesthiesia into one

Tool used: FLutter and Android Studio

Details of Papers/patents: None

Brief description of the working environment: The work environment was friendly and the mentor was easy to approach and chill. We were set reasonable deadlines

Academic courses relevant to the project: CS F111

Learning Outcome: I learned to work in a team and learned how organizations function. Learnt app dev in Flutter and Android Studio

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PS-I station: Yashoda Hospitals - IV , Hyderabad

Student

Name: MANAV SAHNI .(2021A8PS2199H)

Student Write-up:

PS-I Project Title: Integrated Anaesthesia Depth Monitoring System

Short Summary of work done: We learnt to use flutter on android studio and made an app from scratch to implement a working model that would acquire the values of various components of anaesthesia already given to a patient as the output of the BIS and TOF monitors and as a result would output a value that corresponds to the amount that is yet to be given to accurately anaesthesize the patient

Objectives of the project: To combine the values of the TOF and BIS monitors and in turn, administer the amounts of amnesia, analgesia and muscle relaxant to be given to a patient

Tool used: Android Studio, flutter

Details of Papers/patents: We ended up making 20-30 page reports each

Brief description of the working environment: The doctor helped us throughout the projects getting us acquainted with the medical knowledge we didnt have, and in turn we made a successful project through all the learning

Academic courses relevant to the project: Computer Programming, Android app development

Learning Outcome: I learnt to apply book knowledge in real world projects, an entirely new language flutter, and learnt how to share and divide the work- the essense of teamwork

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PS-I station: Yashoda Hospitals - V , Hyderabad

Student

Name: AMAN RAIZADA .(2021A3PS1298H)

Student Write-up:

PS-I Project Title: SIMLAB Training System

Short Summary of work done: We made an app which can simulate the CPR procedure inside an app which can train and get the students acquainted with the basic procedure without the requirement of a mannequin.

Objectives of the project: To make an app simulating the traditional mannequin based techniques to train students virtually.

Tool used: Flutter, Dart, Android Studio, Figma

Details of Papers/patents: N/A

Brief description of the working environment: The PS was online, so the only work environment we got was a google meet. The expectations from the company cum hospital was less in general. Overall, in terms of learning, it is highly limited.

Academic courses relevant to the project: None

Learning Outcome: Flutter, Dart, App Development, Figma, UI/UX

PS-I station: Yashoda Hospitals - V , Hyderabad

Student

Name: ABILASH K M .(2021A3PS2654H)

Student Write-up:

PS-I Project Title: Medical Records in Emergency

Short Summary of work done: We built an app using flutter and flutterflow using firebase

Objectives of the project: Build an app to store and upload medical records which can be accesses during an emergency

Tool used: Flutter, flutterflow, figma

Details of Papers/patents: None

Brief description of the working environment: The company just gave us the project and we were left to do it on our own, there was no support with respect to the development process but progress was regularly monitored

Academic courses relevant to the project: None

Learning Outcome: Learnt team work and logistics of the front desk of an hospital

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PS-I station: Yashoda Hospitals - V , Hyderabad

Student

Name: ADITYA ANANT SHANKAR SINGH .(2021A3PS2722H)

Student Write-up:

PS-I Project Title: Medical records in an emergency

Short Summary of work done: Developed an application that allows patients to upload their medical prescriptions so they can be easily managed and accessed by doctors during examination through an OTP based system. We used FlutterFlow to create app screens and implemented the backend using Firebase and Flutter.

Objectives of the project: To create an app that allows patients to upload their medical prescriptions so they can be easily managed and accessed by doctors during examination through an otp based system

Tool used: Flutter, Android Studio

Details of Papers/patents: NA

Brief description of the working environment: The working environment was healthy and calm. The expectations of our mentor were realistic in the sense that he didn't want us to create an industry-level application that is ready to be widely published but instead a small-scale app for basic uses.

Academic courses relevant to the project: NA

Learning Outcome: Learned how to work with Flutter, Dart & Firebase

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PS-I station: Yashoda Hospitals - V , Hyderabad

Student

Name: PRANAV SACHIN PAWAR(2021A7PS2599G)

Student Write-up:

PS-I Project Title: SIMLAB Training System

Short Summary of work done: SIMLAB Training Systems aimed to create an app that would enable medical professionals to learn medical procedures efficiently. In the initial week, our team focused on researching CPR while simultaneously learning Flutter for app development. The subsequent week involved designing the app's user interface and user experience using Figma, providing a visual representation of its functionality. Once the UI was finalized, we proceeded to build the frontend, which required mastering various Flutter widgets and integrating them into the app. The following weeks were dedicated to completing the frontend and adding functionality. By implementing interactive buttons on the home screen, users could navigate to specific procedure modules, such as CPR, where they found detailed instructions and actions. The app aimed to provide a

comprehensive learning experience, empowering users to understand and perform medical procedures accurately. Through its intuitive design and seamless integration of features, SIMLAB Training Systems strived to deliver a valuable resource for medical professionals seeking to enhance their skills and knowledge.

Objectives of the project: To create app that would help users to learn medical procedures such as CPR.

Tool used: Flutter and Github

Details of Papers/patents: N/A

Brief description of the working environment: As the PS station operated online, Dr. Parameshwaran, our PS-1 faculty, held regular meetings with us three to four times a week to discuss our progress. Additionally, our industry mentor, Dr. Vinith from Yashoda Hospitals, met with us weekly to evaluate our work and provide valuable suggestions for the app. Given the hospital setting of the PS station, we were responsible for learning and implementing all software-related aspects independently. The mentors envisioned the app as a valuable tool to aid new doctors in hospitals by simplifying the learning and implementation of medical procedures. This project not only provided us with an opportunity to learn app development but also familiarized us with GitHub for storing the app's codebase. Moreover, our knowledge of Flutter, the language we used to build the app, significantly improved through this project.

Academic courses relevant to the project: OOP (CS F213)

Learning Outcome: For project we learned Flutter to create app and also had to study about medical procedures.

PS-I station: Yashoda Hospitals - V , Hyderabad

Student

Name: AYUSH MALIK(2021A7PS2906G)

Student Write-up:

PS-I Project Title: Medical Records in Emergency

Short Summary of work done: We made a medical app using Flutter and Firebase. It includes a one-time password feature for secure login. We also designed six screens for the app's interface using Figma. And then implemented all of the six screens using Flutter and utilised Firebase authentication for OTP.

Objectives of the project: The objective of this project was to design a mobile application using Flutter that provides doctors with immediate access to essential patient data in emergency situations.

Tool used: Software: Flutter, Firebase

Details of Papers/patents: NA

Brief description of the working environment: During my PS-I at Yashoda Hospitals, the work environment was collaborative and I learned to work in a team with my assigned Group. We were guided by our industry mentor, Dr. Vinith. The company expected us to create an application which will allow them to see patients data immediately in emergency situations, which will allow for quick diagnosis of potential problems that may have been arising.
I learnt App Development and used Flutter and Firebase to build the app that we were required to. We also used Figma to design the screens of the app.
Overall, it was quite a good experience.

Academic courses relevant to the project: No

Learning Outcome: Learning app development using Flutter and Firebase.
Gained skills in designing user-friendly interfaces
Realised the importance of immediate access to patient data in emergency situations

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PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: TANUSH KIRAN(2021A3PS1181G)

Student Write-up:

PS-I Project Title: Managing Duplication of Radiology Investigations

Short Summary of work done: First, we recognised the issue that the medical professionals—doctors and nurses—were confronting. After thoroughly comprehending the issue, we developed a logical framework for the solution. The answer was to create a website that would serve as the foundation for our concept. Using Figma, I created the UI/UX for the website. We developed the HTML website utilising linear search methods.

Objectives of the project: There exist many scenarios wherein patients might get multiple unnecessary radiology scans resulting in unnecessary expenses and excessive radiation exposure. We had to tackle this challenge of multiple radiology scans by creating a user-friendly solution that eliminates duplication and ensures effective management of investigations

Tool used: Figma

Details of Papers/patents: -

Brief description of the working environment: We all had a terrific experience over these eight weeks of the internship. We gained excellent work experience from this PS-1 project. This taught us how to collaborate with one another and value each other's abilities and efforts. It was fun and educational for us to work as a team on a project. During PS-1, we gained a lot of technical and professional experience, as well as a lot of knowledge.

Academic courses relevant to the project: -

Learning Outcome: The goal of the project was to develop a solution that serves as a warning whenever a patient's scan is attempted to be filed. I discovered how important different hospital management softwares are to the operation of such a facility through this research. I discovered the difficulties that physicians, nurses, and even patients deal with on a regular basis. I also learned about the many tools we utilised to put the idea into practise.

PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: AARUSH SHUKLA(2021A3PS2577G)

Student Write-up:

PS-I Project Title: PATIENT DATABASE MANAGEMENT SYSTEM

Short Summary of work done: Many healthcare academicians face the issue of storing patient data. Although there are a lot of platforms that are solving this problem, they don't provide end-to-end ownership or offline patient data storage. Therefore, one always needs to look for data online rather than offline. Also, after the licence expiration, these papers and data become accessible to the user. Hence, we planned to create an application that will store data offline without the involvement of any licence issues on a local drive. Our application, MediLinkPro, will address this issue while incorporating the feature of sharing databases. This will not only improve the efficiency of storage but also promote a digitised prescription. We added certain features to it to make it more user friendly and useful such as (A) Offline Patient Data Storage System (B) Keyword-Enabled Search Functionality (C) Patient Status and Calendar view (D) Integration of Patient Data (E) Pre-Appointment Preparation Feature (F) User Friendly Interface and Collaboration

Objectives of the project: To create offline patient photo and data storage application

Tool used: ElectronJS and MongoDB for the software part

Details of Papers/patents: https://medium.com/folkdevelopers/the-ultimate-guide-to-electron-with-react-8df8d73f4c97

Brief description of the working environment: I am grateful to Yashoda Hospitals for teaching me industry-level skills and decorum. I spent this time improving my talents and self-confidence. It has allowed me to use my knowledge in various critical areas of my project, which will undoubtedly help me in the future. Dr. Sree Lakshmi's time spent introducing the doctors and explaining Yashoda Hospitals' procedures, ethics, and culture is much appreciated.
Dr. Sai Krishnan, who tirelessly led us throughout our internship, deserves special thanks. This initiative would have failed without his consistent support and effort. He gave us wonderful guidance and encouraged us to be creative when tackling problems.I also want to thank BITS Pilani Practise School Division Dean Prof. SP Regalla and Associate Dean Prof. Sachin Waigaonkar. They allow us to learn from industry professionals. My practice School professor, Dr. Rickmoy Samanta, made my practice school successful. They always made time for our issues, despite their busy schedule. My teammates Manas Ashwin, Vaishnavi, Pratham Jaiswal and Shlok Patel have contributed equally towards the success of our project. Our strong network and commitment drove the project's success.

Academic courses relevant to the project: Computer Programming

Learning Outcome: Learnt about Various Technologies such as ElectronJS and MongoDB and their wide range of uses and benefits of it over other technologies. Learnt about how to collaborate and perform a task as a team.

PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: VAISHNAVI .(2021A5PS0359P)

Student Write-up:

PS-I Project Title: Patient Database Mangement System

Short Summary of work done: I was a project manager for the above-mentioned project. Hence, my work included collecting feedback from the mentor, Dr. Sai Krishna, about the nature of the problem and the solution he was looking for. Thereon, I discussed the same with my batchmates and PS instructor Dr.Rickmony Samanta about the various possibilities for the solution and came up with the most efficient plan to evaluate the entire task. This resulted in the creation of the application Medilink, which will store the data of more than 5,000 patients on a daily basis.

Objectives of the project: Dr. Sai Krishnan and many other healthcare academicians face the issue of storing patient data. Although there are a lot of platforms that are solving this problem, they don't provide end-to-end ownership or offline patient data storage. Therefore, one always needs to look for data online rather than offline. Also, after the licence expiration, these papers and data become accessible to the user. Hence, we planned to create an application that will store data offline without the involvement of any licence issues on a local drive. Our application, MediLinkPro, will address this issue while incorporating the feature of sharing databases. This will not only improve the efficiency of storage but also promote a digitised prescription.

Tool used: Java Script, HTML, React

Details of Papers/patents: There were no papers or patents as such, but here is the github link for the entire project: https://github.com/manaschubby/MediLink-Pro

Brief description of the working environment:

I was very thankful to Practise School for assigning my mentor, Dr. Sai Krishnan, and PS instructor, Dr.Rickmoy Samanta, during PS 1. Their guidance and constant support during the entire PS was the reason we built the successful application MediLinkPro for the Yashoda main database. Apart from this, my teammates were very hardworking and cooperative while facing issues. It is due to our great team effort that we are planning to launch applications for other hospitals as well.
The doctors were quite enthusiastic about the project assignment and working with us. Our team was passionate about the application's development. The only thing I wished for was the involvement of the technical team of Yashoda Hospital in assisting us with the software knowledge of the Yashoda database.

I have learned various technical skills as a project manager, such as HTML, Javascript, Electron JS, and React. Apart from this, as a Project manager, I learned about managing different aspects of a project, including team management and soft skills.

Academic courses relevant to the project: Computer Programming, Cross Cultural Skill and Effective Public Speaking

Learning Outcome: Technical skills: React, JavaScript, and HTML
Non-technical skills: Team management, Soft skills of speaking, and networking with renowned doctors and superb batchmates

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PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: SHLOK V PATEL(2021A7PS2441G)

Student Write-up:

PS-I Project Title: Patient Database Management System

Short Summary of work done: We started the project from scratch and developed the app for Patient Database Management. I completed the tutorials first and learnt about

various technologies and frameworks including Javascript, Node.js, Electron, React, MongoDB. With the help of these and my team members we were able to build the application and provide the doctors with the same.

Objectives of the project: To create an desktop application to store, search, and analyse patient photos and data efficiently.

Tool used: Electron, MongoDB and React.

Details of Papers/patents: -

Brief description of the working environment: Overall, I am content with the experience. Our allocated faculty was incredibly supportive, diligently addressing any questions or uncertainties we had. Moreover, the industry mentor was consistently available to guide us through our errors and show us the proper methods for improvement. Working alongside my team, we made our best efforts to meet all the requirements while developing the application.

Academic courses relevant to the project: DBMS

Learning Outcome: Through this project I learnt about various development technologies and frameworks like Electron, React, MongoDB and JavaScript.

PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: NEERAL PRATEEK(2021B2A32141G)

Student Write-up:

PS-I Project Title: EBUS Detection

Short Summary of work done: Researched about EBUS and took samples pre processed data trained a ML model.

Objectives of the project: EBUS Detection using AI/ML

Tool used: Python

Details of Papers/patents: None

Brief description of the working environment: Though the doctors tried their best due to their busy schedules they weren't able to keep in contact and provide us with all the necessary information and data we required so work was really slow.

Academic courses relevant to the project: AI/ML courses

Learning Outcome: Learning how to pre process data and train ML models

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PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: PRATHAM JAISWAL(2021B2AA3009G)

Student Write-up:

PS-I Project Title: Patient Data Management System

Short Summary of work done: In the project, we have to make offline software for doctors to manage their patients' data and access it. We used ElectronJS for the backend development of the application and MongoDB for the database management of the application.

Objectives of the project: Make an offline software for the doctor to manage their patient's data.

Tool used: HTMl, CSS, Java, Electron JS, MongoDB.

Details of Papers/patents: https://medium.com/folkdevelopers/the-ultimate-guide-to-electron-with-react-8df8d73f4c97

Brief description of the working environment: It has been a good learning experience overall. I have gained experience working in a corporate environment. I have gained experience to work in a team which will be surely helpful for me in my future.

Academic courses relevant to the project: Computer Programming

Learning Outcome: I have learned HTML, CSS, and Java with its different frameworks.

PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: VIJAY GURUPRASAD DHARMAJI(2021B3A71049G)

Student Write-up:

PS-I Project Title: Autodetection of Endobronchial Ultrasound Images

Short Summary of work done: We first started with understanding what the project requirements are and were then split into groups based on our interest. All the team members then got a thorough understanding of the process and system currently in place at hospitals from one of the doctors. We then researched into many models which are best suited for our needs and chose a few. We gathered images and then validated, trained and tested the chosen models. Based on the results we selected only a couple (Yolov8 and ViT) to take forward and which can be used for practical purposes.

Objectives of the project: To detect anomalies in endobronchial ultrasound images using multi class image classification models.

Tool used: Python, PyTorch, OpenCV, HuggingFace, LangChain

Details of Papers/patents: None

Brief description of the working environment: The working environment was very motivating and productive. All mentors and teammates were nice and supported me throughout the course of the PS. Initially too, the doctors were very understanding of our

engineering backgrounds and helped us with all the medical knowledge we need for the project.

Academic courses relevant to the project: Introductory biology, Introduction to Machine Learning

Learning Outcome: Learnt how to collaborate with team mates, doctors and also how to use PyTorch models.

PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: JAYANT AGGARWAL .(2021B4AA2324P)

Student Write-up:

PS-I Project Title: Role of AI in EBUS

Short Summary of work done: We made dataset of ebus inages and trained tye model using various DL algorithm

Objectives of the project: Had to use deep learning algorithms for detection in EBUS images

Tool used: Pytjon, jupyter notebook,keras

Details of Papers/patents: No such details. It is a project unde development

Brief description of the working environment: Doctors were very busy. It was difficult to have their time . Other8wise they tried to help their best and guided us throughout the project

Academic courses relevant to the project: Optimisation, Operations Research

Learning Outcome: Computer vision , ML/AI

PS-I station: Yashoda Hospitals , Hyderabad

Student

Name: ARYAMAN KUSHWAHA .(2021B5AA2412H)

Student Write-up:

PS-I Project Title: Managing Duplication of Radiological Investigations

Short Summary of work done: In our project, we focused on addressing the challenges in the patient flow process at Yashoda Hospital, specifically related to the duplication and inefficient management of investigations. Our plan involved the implementation of a pop-up system as an alert message to enhance the investigation scheduling process. The pop-up system was designed to display relevant information from the patients' database based on their unique YH number. It provided details of the last three tests and their corresponding dates. We specifically tailored pop-ups for the radiology department personnel involved in scheduling, ensuring improved efficiency and accuracy. To enhance user-friendliness, we utilized color coding in the pop-ups. Tests conducted within the past three months were displayed in red, those conducted between 3-6 months ago in yellow, and those conducted beyond six months in green. Additionally, we addressed scenarios where patients required repeated investigations by implementing a separate approach, which may involve a different color-coding scheme or require confirmation from consulting doctors. Throughout the project, we actively sought feedback from software users, considering it crucial for further system improvement. We also requested assistance from doctors to facilitate communication with individuals responsible for filling investigations and the staff of the radiology department. In terms of our work, we began by designing the website's interface using software such as Figma, focusing on enhancing the overall user interface (UI) and user experience (UX). We then proceeded with the implementation of the frontend, incorporating visual and interactive elements that users interact with. Simultaneously, we developed the backend, ensuring smooth functionality and efficient database management. Overall, our project culminated in the creation of a website that addressed the challenges of duplication and inefficient investigation management, providing an improved experience for both patients and medical staff.

Objectives of the project: Our objective is to develop a website that addresses the issue of duplicating hospital records, which results in patients being charged twice and exposed to unnecessary radiation during CT scans.

Tool used: Figma, html, CSS, JavaScript

Details of Papers/patents: null

Brief description of the working environment: During our Practice School-I (PS-I) experience, we had the privilege of working under the guidance of Prof. Rickmoy Samanta, our Faculty-In-Charge (FIC). Prof. Samanta played a pivotal role in supporting and assisting us throughout our projects, ensuring that we had all the necessary resources and guidance at our disposal. Despite the PS-I being conducted online, Prof. Samanta went the extra mile by physically visiting the hospital and gathering information on the IT department and their working system. This enabled us to gain valuable insights and answers to our queries.

The doctors at the hospital also played a significant role in supporting our project. Despite their busy schedules, they made a genuine effort to dedicate time and provide assistance whenever possible. Their expertise and willingness to help greatly contributed to the success of our project.

However, during the post-midterm period, we faced some challenges in terms of communication and interest from the station's side. We had requested a meeting with the IT department of the hospital to gain further insights, but unfortunately, it was not arranged as initially expected.

Nevertheless, our team demonstrated exceptional effort and teamwork. Each team member took responsibility for different aspects of the project and worked diligently to complete their assigned tasks. This collective effort and division of work ensured the successful completion of our project despite the obstacles we encountered along the way.

Overall, the working environment during PS-I was characterized by strong support from our FIC, assistance from the doctors, and remarkable teamwork within our team. We gained valuable knowledge and experience through this process, contributing to our personal and professional growth.

Academic courses relevant to the project: Learnt about the basics of Figma software on YouTube

Learning Outcome: During the website development process, I gained a comprehensive understanding of the various stages involved. The initial step entails designing the website's interface, for which I contributed using software such as Figma. This design phase significantly enhances the overall user interface (UI) and user experience (UX).

Furthermore, I expanded my knowledge regarding both frontend and backend development for websites. This encompasses the implementation of the visual and interactive elements that users interact with on the frontend, as well as the behind-the-scenes functionality and database management on the backend. Acquiring insights into

these aspects deepened my understanding of the complete website development process.

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