PRAPTI MAITRA

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EDUCATION

UNIVERSITY OF EDINBURGH   Edinburgh, UK
Bachelor of Science (Honours)   Sept 2019 - July 2024
> Major in Computer Science and Mathematics
> Grade: Upper Second Class (2:1)
> Coursework: Introduction to Computation, Software Engineering; Operating Systems; Algorithms and Data Structures; Computer Communications and Networks; Computer Security; Principles and Design of IoT Systems; Object Oriented Programming (OOP); Financial Mathematics ; Partial Differential Equations; Stochastic Calculus; Statistics; Probability;

WORK EXPERIENCE

HEALYNC LLP. (health-tech startup)   Kolkata, IND
Data Science Intern   May 2022 – Aug 2022
- Created a user-friendly PowerBI dashboard to visualise healthcare metrics, facilitating the identification of key trends in patient data; findings addressed three significant areas impacting treatment effectiveness.
- Extracted and analysed over 500 records from a NoSQL database, ensuring the security of sensitive healthcare data while maintaining strict compliance with industry regulations and enhancing overall data integrity.
- Facilitated cross-functional communication and participated in code reviews, leading to a streamlined workflow that reduced project completion time by 15 hours per month per team member.

UNIVERSITY PROJECTS

THESIS PROJECT
- Collaborated with my project supervisor and his PhD student to add features to an API called OpenDBML.
- Contributed to the project's goal of streamlining data preparation for in-database machine learning (IDBML) systems.
- Developed backend API features for OpenDBML, optimising data transformation processes and ensuring compatibility with in-database machine learning frameworks.
- Implemented unit testing and contributed to performance benchmarking, providing the scalability and security of the API.

MATHEMATICS GROUP PROJECT
- Conducted quantitative analysis on data from 24 universities, utilising Python for statistical methods, including t-tests, chi-square tests, and regression analysis, to identify trends and shifts in educational practices.
- Created detailed data visualisations to represent trends and statistical outcomes, enhancing the ability to convey complex quantitative insights to a non-technical audience.
- Collaborated with team members and supervisor to compile findings in a comprehensive LaTeX report, demonstrating effective written communication of technical results to support informed decision-making.

LINUX KERNEL DEVELOPMENT
- Developed and tested custom Linux kernel modules in C and C++ to manage low-level system functionalities.
- Conducted rigorous debugging and system performance testing to ensure real-time communication and stability.
- Constructed modularized functions leveraging expertise in lower-tier languages such as C & Assembly targeting critical application areas; these contributions streamlined overall workflow efficiency allowing developers substantial reductions—averaging four hours weekly—in repetitive task execution efforts.

HUMAN ACTIVITY RECOGNITION APP
- Collaborated with a team of three to create a Human Activity Recognition app using Python and Kotlin.
- Developed a machine learning model achieving 94% accuracy in classifying human activities based on sensor readings.
- Conducted hyperparameter tuning on machine learning models, refining model parameters to enhance classification accuracy by a notable 6%, resulting in improved reliability of the Human Activity Recognition app for end-users.
- Utilised Git for version control, ensuring seamless collaboration and code integration across the team.

ACTIVITIES

Maths Outreach Team   Edinburgh, UK
Team Leader   Sept 2021– Apr 2023
- Directed task allocation among six team members during high-pressure periods, resulting in on-time completion of five major projects within tight deadlines while addressing three significant barriers to productivity.

ADDITIONAL

Technical Skills: Python, Java, C, C++, C#, JavaScript, SAS, Kernel Development, MySQL, Virtual Machines, Linux, Ruby, Kotlin, React, HTML, REST, Go
Tools: Git, GitHub, QEMU, GDB, VS Code, PowerBI, Jupyter Notebook, LaTex
Awards: Edinburgh Award, Scholar Badge