

EDUCATION

UNIVERSITY OF EDINBURGH

Bachelor of Science (Honours)

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;

Societies : Hoppers Informatics Society, Hack The Burgh, Informatics Tutoring Scheme, Maths Outreach Team, TEDxUniversityofEdinburgh, Edinburgh Junoon

Edinburgh, UK
Sept 2019 - July 2024

WORK EXPERIENCE

HEALYNC LLP. (health-tech startup)

Data Science Intern

Kolkata, IND
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

Team Leader

Edinburgh, UK
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.

Informatics Tutoring Scheme

Tutor

Edinburgh, UK
Dec 2021– Apr 2022

- Conducted one-to-one teaching sessions with Nat-5 students covering fundamental computer science concepts.

SKILLS

Programming Languages: Python, Java, C, C++, C#, JavaScript, Ruby, Kotlin, React, HTML, Go, Swift

Databases: MySQL, Postgres

Operating Systems: Linux, Virtual Machines

Tools: Git, GitHub, QEMU, GDB, VS Code, PowerBI, Jupyter Notebook, LaTeX, SAS

Other: REST API