PRAPTI MAITRA
Graduate AI Engineer
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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;
Societies: Hoppers Informatics Society, Hack The Burgh, Informatics Tutoring Scheme, Maths Outreach Team, TEDxUniversityofEdinburgh, Edinburgh Junoon

WORK EXPERIENCE

SYNERGY GULF. (trading and consulting firm) — Doha, QA
Freelance Web Developer — March 2025 – Present

- Rebuilt the company's entire B2B website using React, improving performance, design responsiveness, and overall user experience across devices.
- Worked directly with business stakeholders to gather requirements and ship updates iteratively under tight deadlines.
- Delivered a scalable and SEO-friendly architecture, positioning the company for improved client engagement and credibility in the sustainable energy sector.

HEALYNC LLP. (health-tech startup) — Kolkata, IND
Data Science Intern — May 2022 – Aug 2022

- Built a Power BI dashboard to visualise 500+ MongoDB healthcare records, surfacing treatment trends and informing strategy.
- Ensured data security and compliance while processing sensitive health records using Python and NoSQL.
- Participated in code reviews and agile planning, reducing project turnaround time by 2 weeks through improved collaboration.

UNIVERSITY PROJECTS

HUMAN ACTIVITY RECOGNITION APP

- Built and trained a bi-LSTM model in Python using TensorFlow/Keras, achieving 97.7% accuracy in classifying physical activities from sensor data; gained 6% improvement through hyperparameter tuning.
- Cleaned and preprocessed time-series data using Pandas, NumPy, and scikit-learn to optimize model performance.
- Converted and deployed the model with TensorFlow Lite for real-time inference in a Kotlin-based Android app as part of a cross-functional team project.
- Utilised Git for version control to support agile collaboration, seamless code integration, and efficient peer reviews.

THESIS PROJECT – OpenDBML (In-Database Machine Learning Framework)

- Converted an internal Python API into a complete data preparation tool for ML, adding 6 new features including train/test splitting, one-hot encoding, dimensionality reduction, and exploratory plotting.
- Integrated support for 2 additional IDBML systems (Layered Multiple Functional Aggregate Optimization and MorpheusPy), expanding the API's compatibility from 1 to 3 systems.
- Benchmarked model performance across all three frameworks, comparing runtime and RMSE to evaluate system-specific trade-offs.
- Wrote unit tests and modularized backend logic to ensure clean integration and maintainability.

STATISTICAL ANALYSIS OF POST-COVID ASSESSMENT IN UK MATH EDUCATION

- Conducted end-to-end data analysis on post-pandemic university assessment trends across 800+ modules using Python, focusing on uncovering statistical patterns in large-scale education data.
- Applied dimensionality reduction (PCA), correlation analysis, Mann–Whitney U tests, and linear regression to detect shifts in closed- and open-book exam usage across institution types.
- Created data visualizations using Seaborn and Matplotlib to communicate insights effectively to non-technical academic stakeholders.
- Delivered a structured LaTeX report, highlighting statistically significant findings that contributed to ongoing research in educational policy and analytics.

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.

SKILLS

Programming & Scripting : Python, Java, C, C++, Go, Kotlin, JavaScript, HTML, Swift
Machine Learning & Data Science : TensorFlow, PyTorch, scikit-learn, Statsmodels, NumPy, Pandas, Matplotlib, Seaborn, PCA, bi-LSTM, CNN, Feature Engineering, Model Benchmarking, Hyperparameter Tuning
Data Handling & Databases : SQL, PostgreSQL, MongoDB, NoSQL, Data Cleaning, Dimensionality Reduction, Exploratory Data Analysis (EDA)
Tools & Platforms : Git, GitHub, Power BI, Jupyter Notebook, LaTeX, VS Code, QEMU, GDB, Linux, TensorFlow Lite
Other : REST APIs, Unit Testing, Data Visualization, Report Writing (LaTeX)