Anya Patel

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EDUCATION

University of Manchester **[Sept 2023 − June 2027]**
BSc Computer Science and Mathematics with IE (1st Year Average: 84%)
Relevant Modules: Software Engineering, Intro to AI, Machine Learning, Data Structures and Algorithms, Data Science
Intro to Financial Mathematics, Numerical Analysis, Probability, PDEs and Vector Calculus

Watford Grammar School for Girls **[Sept 2019 − June 2023]**
A Levels: Further Maths (A*), Maths (A*), Biology (A*), Chemistry (A)

PERSONAL PROJECTS

Python Data Analysis: ML Neural Network for Image Classification **[July - August 2024]**
- Trained a custom neural network algorithm to classify a plant into wilting/not wilting, using cross-entropy loss function to measure model accuracy and stochastic gradient descent for optimisation.
- Collected and pre-processed the dataset for training, validation, and testing purposes.
- Tuned hyperparameters including learning rate to achieve an accuracy of 87% on the test set.
- Integrated a TensorFlow network with a microcontroller to automate a water pump in a functional irrigation system.

AWS Amplify and Android Studio: Social Media App **[August - Sept 2024]**
- Developed a social media application inspired by the BeReal app, to upload screenshot capture at randomised times during the day for other users to view.
- Enabled account creation and secure sign-in functionality, providing reliable authentication (via AWS Amplify).
- Stored images using Amazon S3 buckets for efficient retrieval when displaying the user's "feed".
- Encouraged continued user engagement through an intuitive and user-friendly feed display.

TEAM / OTHER PROJECTS

Java: Implementation of Multi-Player Board Game **[April 2024]**
- Developed a bakery system using Java in 3 weeks, following UML diagrams to ensure structured design.
- Implemented object-oriented programming principles - inheritance, polymorphism, encapsulation, abstraction.
- Documented code, following standard practices for Java documentation to target maintainability.
- Executed and passed over 800 functional, structural, and Javadoc unit tests, ensuring functionality and reliability.

Hackathon: Royal Hackaway **[January 2024]**
- Assembled and led an interdisciplinary team of 4, fostering a collaborative and inclusive team environment that values all contributions, and maintaining team morale.
- Initiated and directed discussions on the importance of accessibility in front-end web design.
- Presented a web project to demonstrate the impact of intuitive interfaces on user experience and engagement.

Full Stack Website Development: Dating Website **[Sept - Dec 2023]**
- Led a back-end team of 3 developers to design scalable data models, and handled data insertion and retrieval.
- Managed agile workflow and synchronisation between all team members to maintain progress and meet deadlines.
- Designed the algorithm to match user profiles based on data held and led discussions around data collection and usage to comply with legal requirements and standard ethical frameworks.
- Combined code with GitLab branching for version control, including handling merge conflicts.

SKILLS

Technical: Python, Java, TensorFlow, OpenCV, AWS Amplify, Android Studio, GitLab, PHP, SQL
Collaborative: Project Management, Agile Methodologies, Iterative Development

EXPERIENCE

Student Mentor - Peer Assisted Study Sessions **[Sept 2024 - Present]**
- Guided mentees through challenging topics, enhancing academic confidence and effective study techniques.
- Pinpointed areas of confusion, using past experiences to bridge knowledge gaps and provide encouragement.

Private Tutoring - Maths and Computer Science (up to A-Level) **[Sept 2021 - Present]**
- Tailored 6 teaching plans in advance to ensure full coverage of content for given deadlines, identifying key priorities.
- Provided support for 2 students in building Python programs to fit specifications that mirrored GCSE coursework.
- 100% of students sitting exams in Spring 2024 exceeded predicted grades.