Awab Akram

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Experience

Squarepoint Capital | Quantitative Hedge Fund — Aug 2025 – Mar 2026
Software Engineer (Full-time) — *London, UK*

- Developed and maintained Python data ingestion pipelines collecting alternative datasets from APIs, web platforms, and vendor systems to support quantitative research and trading systems.
- Implemented parsing and transformation logic in Python/pandas to convert heterogeneous datasets (CSV, Excel, PDFs, web data) into standardised tabular schemas for downstream use.
- Participated in production support rotations for thousands of scheduled scraping jobs, investigating pipeline failures by analysing logs on Linux hosts and coordinating with internal engineering teams and quantitative researchers to restore data ingestion and minimise disruption to production trading systems.
- Wrote pytest test suites for scraper parsing logic to ensure dataset schemas remained valid and prevent regressions when modifying ingestion pipelines in a shared codebase.

Roots Academy | Islamic Education Non-Profit — Aug 2024 – Nov 2025
Software engineer (Volunteer) — *Remote, UK*

- Crafted the Roots Branches platform using Flutter, supporting Roots' mission to help Muslim students lead God-centered lives by improving lecture slide management and resource access, boosting content management efficiency by 30%.
- Collaborated with cross-functional teams to implement new functionalities, such as enhanced reporting tools and QR code functionality for real-time student responses during lectures, enhancing platform usability for instructors.
- Integrated Firebase to enable real-time tracking of student engagement, supporting data-driven lesson improvements and a post-lecture feedback system for ongoing enhancements.

Education

The University of Manchester — Sep 2022 – Jun 2025
BSc Computer Science · First Class Honours (GPA: 71%)

- **Introduction to AI & Machine Learning:** Implemented search algorithms and trained supervised learning models
- **NLP & NLU:** Built and evaluated models for text classification and natural language inference.
- **Computer Vision:** Implemented feature detection, stereo vision, and convolutional neural networks.
- **Database Systems (MySQL, PHP, HTML, CSS):** Designed and implemented a database for a company, "Kilburnazon", based on specific requirements. Developed a web interface for managers to easily interact with the database.

Projects

Identifying Takotsubo Syndrome in CT Scans | *Python incl. PyTorch, Monai, Optuna* — Sep 2024 – Apr 2025

- Developed a machine learning system to identify Takotsubo syndrome from CT scans
- Processed 3D CT scans and applied segmentation using TotalSegmentator to isolate relevant anatomical regions.
- Designed a preprocessing pipeline to standardise voxel spacing, intensity ranges, and input dimensions.
- Trained a 3D CNN combining imaging data with patient metadata (age, gender) for binary classification.
- Used Optuna for hyperparameter optimisation and evaluated performance using accuracy, precision, recall, F1-score, and AUC on held-out test data.
- Used Grad-CAM and SHAP to analyse predictions and verify alignment with clinically relevant regions.

Eventlite | *Java Spring, JUnit* — Feb 2024 – Apr 2024

- Collaborated with a team of 7 to develop an event management website using Java Spring and the MVC design pattern, implementing key features for event creation, updates, and validation.
- Integrated Mapbox API to dynamically display venue locations by converting addresses to coordinates, enhancing user interaction with venue pages.
- Managed tasks through GitLab with 50+ issues, utilizing feature branches for development and JUnit for comprehensive testing of event and venue functionalities.

Evolutionary Self-driving Cars | *C#, MonoGame* — Sep 2021 – Mar 2022

- Developed a race car track generation system using advanced algorithms (Convex Hull, Full Bezier Curve), enhancing program complexity and increasing user engagement.
- Designed and trained neural networks for autonomous vehicle control using deep learning and genetic algorithms, achieving realistic driving behaviors and full autonomy in 25 generations, significantly improving navigation accuracy.

Technical Skills

Languages: Python, Java, Dart, C#, JavaScript, HTML, CSS, C, C++
Frameworks/Libraries: Flutter, Pandas, Numpy, Matplotlib, Scikit-learn, Tkinter, Flask, Java Spring, JUnit, MonoGame
Developer Tools: Git, Linux, Firebase, VS Code, Jupyter Notebook, Android Studio, Eclipse