

HAMZA HASSAN

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Personal Statement

As a Machine Learning Engineer at Alten Innovation Lab, I'm gaining hands-on experience with computer vision and deep learning technologies during my master's program placement. With a strong foundation in research, data manipulation, and communication, I excel in problem-solving and working with complex datasets. Detail-oriented and collaborative, I'm eager to keep applying my skills in a dynamic, real-world setting.

Education

MANCHESTER METROPOLITAN UNIVERSITY

Manchester, UK

MSc in Data Science. With Placement. Grade: Distinction (82%)

August 2025

Dissertation: Balancing Accuracy and Cost in Decision Tree Algorithms

Relevant Coursework: Machine Learning, Deep Learning, Data Management and Governance

PAKISTAN INSTITUTE OF ENGINEERING AND APPLIED SCIENCES (PIEAS)

Islamabad, PK

BSc in Electrical Engineering. CGPA 3.46.

June 2023

Relevant Coursework: Programming, Probability and Statistics, Load Forecasting, and Optimisation Techniques

Projects & Certifications

Balancing Accuracy and Cost in Decision Tree Algorithms

Manchester, UK

June 2024

- Evaluated EG2, MetaCost, PM and other decision trees with varying test and misclassification costs.
- Developed cost-sensitive EG2 models, converting them from accuracy-based to cost-sensitive.
- Visualized results and model performance using metrics such as accuracy.

Advanced Machine Learning and EDA on AutoTrader Dataset

Manchester, UK

December 2023

- Utilized Pandas for data cleaning, filtering, aggregation, and created effective data visualization.
- Applied and optimized Random Forests through feature engineering and hyperparameter tuning.

Advanced SQL for Business Analysis

Udemy

August 2022

- Gained experience working with PostgreSQL for querying and filtering.
- Mastered advanced SQL concepts, including aggregate functions, subqueries, and joins.

Experience

ALTEN

Derby, UK

Machine Learning Engineer

September 2024 – Present

- Built, trained, and fine-tuned models with PyTorch, optimizing for performance and accuracy.
- Integrated computer vision models with Microsoft HoloLens to enable real-time object detection and action recognition in immersive environments.
- Fine-tuned a large language model (LLM) to generate CADQuery code, facilitating automated CAD model generation to support design engineering workflows.

TELENOR

Islamabad, PK

Intern

June 2023 – August 2023

- Utilized Oracle to examine call patterns, identifying customer usage trends for service optimization recommendations.
- Applied Python and TensorFlow to model disease prediction using historical mobile data.
- Developed basic churn models in Excel using historical Oracle data, visualizing at-risk customer segments.

Skills & Interests

Technical: Deep Learning, Machine Learning, Data Collection, Data Preprocessing, Data Visualization.

Tools: Python (PyTorch, OpenCV, CADQuery, Pytorch, Langchain), Oracle, HTML, CSS, PostgreSQL, Microsoft Office.

Languages: English (Fluent), Urdu (Native).

Interests: Football (Manchester City), Gaming, Hiking, Music (Alt-rock, Indie), Artificial Intelligence, Social Activism.