Faiza Jalil

faizasjalil@gmail.com • +44 7463134239 • https://www.linkedin.com/in/faiza-j/

Education

Imperial College London Sep 2024 - Jul 2025
MSc Computer Science (Artificial Intelligence and Machine Learning) ***Distinction****, Module Average 81%*

Durham University Sep 2021 - Jul 2024
BSc Computer Science First Class Honours, ***Ranked 1st in cohort with an average of 87%***

- **D**eep Learning (92), Computer Vision (89), Virtual Augmented Reality (91), Reinforcement Learning (92), Cryptography (88) ... *Thesis*: Investigating Diversity in Transformer-Based Models for News Recommendation Systems (85).

Aylesbury High School Sep 2011 - Jul 2020

- Mathematics (A*), Further Mathematics (A), Physics (A*), Chemistry (A) **GCSEs:** 9999998887, A* in Further Maths.

Experience

Machine Learning Postgrad Researcher, *I-X (Imperial Intelligence Applied)* Mar 2025 - Jun 2025

- Researched and implemented fairness-aware graph neural network architectures in PyTorch Geometric, designing end-to-end experiments: formulating hypotheses, measuring demographic parity and equalized-odds and achieved a 20% reduction in bias on a 50K-node social-graph benchmark.

Machine Learning Engineer, *Geoteric* Jun 2024 - Sep 2024

- Engineered and rigorously tested CNNs, U-Nets, and GANs for seismic data denoising and upscaling, using OpenCV, and PyTorch. Implemented adaptive learning rate adjustments, extensive fine-tuning, and distributed training to optimize model performance.
- Achieved a 30% improvement in seismic data quality, enhancing resolution clarity and enabling more accurate geological interpretations and decision-making.

AI Research and Full-Stack Engineer Intern, *Openkit* Jul 2023 - Sep 2023

- Utilised LangChain to streamline the integration of LLMs into web applications, employing advanced prompt engineering for optimized responses.
- Automated web application deployment and management by developing and maintaining CI/CD pipelines with Azure DevOps, which reduced

Full Stack Web Developer Intern, *Battenberg Group | Hunter Teasdale & Co* Jul 2022 - Mar 2023

- Led frontend design with React and JavaScript for projects including financial literacy applications, restaurant web platforms, and influencer marketing sites.
- Engineered backend systems using Python and Django, ensuring robust API integrations.

Projects

Diffusion Model Hotdog Generator *GitHub*

- Built a 32-dim VAE encoder/decoder and a UNet DDPM in PyTorch and Hugging Face Diffusers on a 50K-image hotdog dataset, used k-NN retrieval in the learned latent space

Reinforcement Learning Robot Navigation *GitHub*

- Implemented a Q-learning agent in PyTorch with Gaussian-weighted Q-value updates on a learned resistance map and real-time Pygame visualizations of training and evaluation.

Learning to Walk using Adaptively Calibrated Critics (ACC) *GitHub*

- Developed an ACC-based reinforcement learning agent to address overestimation bias in TD targets, dynamically adjusting bias for robustness and sample efficiency within the BipedalWalker-v3 environment. Enhanced Truncated Quantile Critics (TQC) framework by introducing adaptive quantile exclusion, outperforming baseline architectures (TD3, SAC).

Efficiency-Optimized Spectral Normalization GAN for Image Generation *GitHub*

- Optimized spectral normalization GANs for enhanced efficiency within strict parameter constraints. Utilized depthwise convolutions and adaptive weighting to maximize performance.
- Aimed at high-performance conditional image generation, specifically generating images based on the CIFAR 100 dataset.

News Recommendation System *GitHub*

- Implemented a SOTA deep learning model using multi-head self-attention for predicting user engagement, enhanced by extracting affective features via pre-trained Language Models for superior accuracy.

Skills & Interests

Technical: Python, Pytorch, Huggingface, Azure, AWS, OpenCV, SQL, Pandas, Scikit-learn Linux, C++, Javascript, React, Javascript, Django, MongoDB, HTML, CSS, node.js

Interests: Machine Learning, Deep Learning, Computational Modeling, Data structures or Algorithms, Web Development, Cryptography