

I recently graduated top in my cohort with an MEng in Computer Science from Durham University. I have a strong academic background in deep learning, and industry experience in software development.

For my final project, I researched energy-efficient deep learning object detection on edge devices for robotics.

My interests include edge / tiny scale deep learning for computer vision and reinforcement learning. I often work on personal projects e.g. using deep learning to **forecast the river level** in Durham.

## Education

### Durham University 2021 - 2025

#### Computer Science MEng

Graduated top of my year, with a 81% 4 year average average, 86% in the final year. I achieved the highest final project mark (91%), and was the only student to score above an 80% average. Modules include: Deep Learning (90%), Reinforcement Learning (90%), Computer Vision (80%), Advanced Computer Vision (75%), Advanced Algorithms (88%), Quantum Computing (89%), and Parallel Scientific Computing (83%).

### A Levels 2019 - 2021

4 A\*s: Maths, Further Maths, Physics, Computer Science

## Skills

### Deep Learning | AI

- Proficient with Pytorch and Scikit-learn, some experience with JAX
- Computer Vision: Theoretical and practical work with SOTA models for classification, object detection, and segmentation
- Generative Models: Build and trained small transformers for image diffusion, classification, unpaired image to image / video to video transfer(Cycle-GAN / MoCycle-GAN)
- Reinforcement Learning: Understanding and implementation of SOTA algorithms for continuous environments. Experience with both model-free and model-based methods with MCTS.
- Edge deployment: Deployment to Hailo accelerators and CPU targets. Experience with NAS, quantization, and pruning.
- Hardware Aware Model Development: Experience measuring energy usage and throughput on edge devices
- LLM Prompt Engineering: Experience developing professional tools leveraging language models

Skills developed and proven through university coursework, final project and personal projects

### Web Development

- Typescript, React, Redux, Next.js, TailwindCSS

I have experience building web applications with modern technologies. This CV is built with React and TailwindCSS.

### Rust

- Deep learning model deployment with ONNX runtime
- Web service development with Axum

I have experience with Rust through personal projects.

### DevOps

- Continuous Integration and Deployment
- GCP and AWS + Infrastructure as Code
- Linux / Unix command line skills

At Cisco I worked with CI/CD pipelines on Jenkins. For each of my personal projects I aim to build CI/CD pipelines and deploy to cloud platforms.

### C/C++

Experience with C/C++ from university coursework.

## Experience

### Full Stack Software Engineer July 2025

#### Solve Intelligence

I am currently working as a full stack software engineer at **Solve Intelligence**, working on LLM copilot tools for the patent application drafting and prosecution. My work has included patent application language translation and jurisdiction conversion, and asset sharing features between organisation users.

### Undergraduate Teaching Assistant 2023 - 2025

#### Department of Computer Science

I assisted in the delivery of the 1<sup>st</sup> year Computation Thinking and 2<sup>nd</sup> year Networks and Systems courses by running lab sessions. This involved helping students with weekly assignments, answering questions, and explaining concepts. Students have a wide range of abilities and backgrounds, requiring me to be able to explain concepts in multiple ways and adapt to different learning styles.

### Cisco Web Development Intern Summer 2022

#### Webex Web Client

I worked on the Webex web client team, developing new features and fixing bugs. Through this I gained experience with React and Redux and learned how to work on software as part of a team. Specific achievements include overhauling the implementation of rich message content, migrating the build system, and implementation of several UI components to a design specification.

### Boat Club President 2023 - 2024

#### Trevelyan College Boat Club

This role encompassed running the finances of the club, organizing training and racing events, and managing the other members of the committee. Over the year, we succeeded in replacing aging equipment, increasing the number of members, and improving the club's racing performance. This role pushed me to develop my leadership, organization, time, project, and team management skills, all of which are transferable to a professional environment.

## Projects

### Energy Efficient Deep Learning Object Detection on Edge Devices

For my final year project, I analysed the energy usage of object detection model on a Hailo 8L accelerator and optimised this using NAS method, implemented with a distributed pipeline. I received a mark of 91% for this project, the highest in my cohort and am in the process of publishing the results.

### River Level Forecasting

I developed and deployed a deep learning model that forecasts the river level in Durham. The predictions can be viewed through a **web dashboard**. This allows rowing clubs to make informed decisions about when to schedule sessions. The model is run using ONNX runtime and a Rust web server.