

MIMI REYBURN - AI ENGINEER

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EDUCATION

Applied Machine Learning Bootcamp - Machine Learning Institute

Jul 2023 - Jan 2024

6-week intensive followed by weekly workshops teaching cutting-edge AI architectures (incl. Transformers, LLMs, Stable Diffusion), coupled with hands-on experience training in Python with scalable MLOps and evaluation.

- Advanced coursework exploring academic research papers and applying them to practical projects.
- Projects include fine-tuning the Llama-2 7B model on GPUs using QLoRA, developing a recommendation engine, and implementing CNN AutoEncoder and Transformer architectures in Python and PyTorch.

Design Engineering, MEng - Imperial

Sep 2018 - Jun 2022

A traditional engineering education with design principles from Imperial's Dyson School, driving innovative solutions to real-world problems. Modules include optimisation, robotics, data science and machine learning.

- Graduated with First Class Honours and 2 awards for contributions to the Imperial community.
- Master's Thesis (81%): 'Machine Vision towards Reducing Household Food Waste'. Tackling food waste via inventory-tracking and novel freshness detection with TensorFlow, R-Pi & Google Coral TPU. [Read paper ->](#)
- Teaching assistant in Mechatronics and Engineering Mathematics through strong academic performance.

EXPERIENCE

Machine Learning Engineer - Oak

Feb 2024 - Present

Sprint project developing rigorous evaluation tools for Oak's AI experiments, which support teaching in the UK.

- Designed and built novel tools for evaluating LLM performance in an education context, proactively consulting internal stakeholders throughout to ensure appropriate product development.
- Fine-tuned GPT3.5-turbo, providing equivalent task performance at less than 25% of the original price.
- With AI Evals Team, presented work on LLM evaluation to AI experts at No.10 and education foundations.

Hardware and Software Engineer - ION-O TECH

Nov 2022 - Apr 2023

Six-month InnovateUK-funded project at a startup making batteries smarter, safer and more sustainable.

- Consulted Research Scientists to design and build a live e-bike battery data collection, analysis and presentation system with a custom Node.js web app. Implemented remote charging control using MQTT.
- Developed a micro-mobility battery data logger, from rapid prototyping to a custom PCB, reducing the footprint of the previous model by 50% and collecting over 100k battery health data points.
- Refined practical electronics skills through a 40V battery teardown and rewiring e-bike systems.

Design Engineer Intern - Emotech AI

Apr - Sep 2021

Six-month placement at an AI startup, pioneering leading Multi-Modal AI Solutions and Speech Technologies.

- Demonstrated leadership in curating an audio dataset, facilitating new product development and IP. Worked cross-functionally, coded time-saving Python scripts and hired 20 freelancers within budget.
- Built GUI for customer-facing app & UX/UI designs in Design Team, helping win a significant new contract.

SKILLSET

Machine Learning - explorative AI enthusiast, skilled in building to validate hypotheses:

- Pragmatic Python programmer with experience applying a range of AI architectures to specific use cases and constructing robust data pipelines for AI solutions using MLOps and Docker.
- Proficient in building and training custom model architectures in PyTorch and TensorFlow.
- Experienced in constructing real-world and synthetic datasets for training ML models.

Engineering - an iterative and user-oriented approach to problem-solving:

- Versatile and confident prototyper in hardware, software, CAD, electronics, UIs, IoT & integrated systems.
- Excellent communication and presentation skills.