MIMI REYBURN - ML ENGINEER

Portfolio | GitHub | LinkedIn | Email

EDUCATION

Applied Machine Learning Programme - Machine Learning Institute — Jul - Sep 2023

6-week intensive programme followed by workshops (ongoing) teaching the full machine learning lifecycle, including cutting-edge AI architectures (Transformers, LLMs, Stable Diffusion), scalable MLOps and evaluation.

- Projects include fine-tuning Llama-2 7B on GPUs using QLoRA, developing a recommendation engine, and implementing CNN AutoEncoder and Transformer architectures in Python.
- Regular presentations to peers, applying academic research to real-world problems.

Design Engineering, MEng - Imperial College London — 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, receiving 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 contracted to develop rigorous evaluation tools for Oak's AI experiments, supporting UK teachers.

- Developed innovative tools to assess the quality of various LLMs in education contexts, enabling data-driven development and ensuring alignment with stakeholder needs.
- Fine-tuned GPT3.5-turbo, reducing latency with equivalent performance at <25% of the original cost.
- Presented LLM evaluation methodologies to AI experts at 10 Downing St and education foundations.

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 and MQTT charging control.
- Designed and fabricated a custom PCB datalogger, collected 100k+ battery health data points.

Design Engineer Intern - Emotech AI — Apr - Sep 2021

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

- Built a dataset for a new supervised ML model for a key client. Contributed to a new contract win.

SKILLS & INTERESTS

Machine Learning - *Training models to test hypotheses:*

- Pragmatic programmer, comfortable with Python, PyTorch & TF.
- Expertise in custom datasets and model training from scratch.
- Experienced in developing AI solutions for user-oriented problems.

Software Engineering - *Building projects from idea to execution:*

- Confident in web development, databases and version control.
- Strong foundation in Docker and MLOps for robust data pipelines.
- Excellent communication and presentation skills.

Interests

- Personal projects exploring real-world problems: View portfolio->
- Sustainability & Tech for Good
- Cooking, creative coding, and ceramics.