

# Jacob Mitchell

## Research Engineer

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### ABOUT

I am a multidisciplinary engineer with over four years of experience in industry and academia, focusing on software development, AI, and digital transformation. Having delivered technical solutions across diverse sectors, I now aim to find meaningful work in the environmental sector.

My experience includes training, optimizing, evaluating, and benchmarking deep learning models, and I leverage full-stack software engineering skills to create and deploy user-friendly applications. I am a curious researcher, dedicated engineer and considerate team member that thrives in multi-disciplinary environments.

### WORK EXPERIENCE

#### ML Researcher **Jan 2025 - Present**

*The Machine Learning Institute*

Research of machine learning solutions for resource-constrained devices. This involves designing and implementing techniques like quantization, pruning, and model distillation to optimize neural networks for low-power hardware such as microcontrollers, wearables, and IoT sensors.

#### Digital Solution Engineer **July 2023 - May 2024**

*Digital Shoestring - IfM Engage, University of Cambridge*

Developed full-stack IIoT applications to help SME manufacturers adopt digital technology. Transitioned the company from research group to start-up by building software, managing codebases, creating user-friendly documentation, and by leading workshops and training programs for clients across the UK, Australia, and Egypt.

#### Lead Robotics Engineer **Sep 2020 - July 2023**

*BIOHM Ltd*

Responsible for automation within R&D and the production of novel biomaterials. In this role I designed, built, tested and maintained a range of bespoke research tools and manufacturing machinery. I managed junior engineers and loved the satisfaction of supporting them through difficult technical challenges.

#### Research Assistant **Oct 2019 - May 2020**

*Morph Lab, Imperial College London*

Worked with the Heart and Lung Institute to develop and test a bio-compatible alginate based sensor solution for cardiac implants.

### SKILLS OVERVIEW

#### AI

PyTorch, Neural Networks, Computer Vision, Transformers, LLMs, ML Methods, Optimisation

#### Programming Languages

Python, Linux, JavaScript, C++

#### Dev Ops/ML Ops

Docker, Kafka, Weights & Biases, Prefect

#### Front & Back End

React, HTML, CSS  
SQL, Django, InfluxDB, AWS

#### IOT

Single Board Computers, Micro-controllers, MQTT, HTTP

#### CAD & CAM

Solidworks, Rhino, Fusion 360

### EDUCATION

#### AI Data Specialist (Level 7) Apprenticeship Training

*2023-Present*

Founders & Coders

#### MEng Design Engineering

*(Incorporating Bachelor's)*

*2015-2019*

Imperial College London  
First Class Hons (1:1)