

Jamie McQuire

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TECHNOLOGY SKILLS

Programming Languages: Python, R, C, SQL

Data Science Technologies: Scikit-Learn, TensorFlow, PyTorch, Spark, PySyft, TensorRT, TF-Lite.

Web Backend Technologies: FastAPI, Flask, Django, MQTT, PostgreSQL, Docker.

Cloud Computing: Microsoft Azure.

Operating Systems: Windows 10, GNU/Linux (Ubuntu/Raspbian), macOS.

Embedded Engineering: Raspberry Pi, OpenVino, NVIDIA Jetson, SQLite, Home Assistant, Arduino.

Education

Computer Science PhD Student
Newcastle University

May 2020 - Present

- Project title: Next Generation Sensors and Analytics.
- Investigating the design of wearable sensors and analytic systems for real-time, non-intrusive, healthcare solutions. Research focuses on privacy-conscious, decentralized machine learning methods for the analysis of human-gait data, within multi-layer, cloud-edge IoT systems.
- Research involves designing and deploying real Federated Learning systems at-scale in production environments.
- Academic interests include: Federated learning, Machine Learning in resource-constrained environments, Machine Learning deployment, Machine Learning for wearable sensor networks, healthcare IoT systems, and multi-layer cloud-edge computing frameworks.
- Fully funded PhD studentship in the Cloud Computing for Big Data Analytics Centre for Doctoral Training (CDT).

PGDIP - Cloud Computing for Big Data Analytics
Newcastle University

September 2019 - May 2020

- Completed a post-graduate diploma in data science.
- Distinction equivalent performance with 79% average across all taught modules.
- Individual module details/grades can be provided upon request.
- Investigated an industry-based data science project as part of the course.

MEng - General Engineering
Durham University

October 2015 - July 2019

- Graduated with a 1st class honours degree.
- Specialization in Electronic Engineering.
- Masters research project in the application of machine learning to wireless communication systems.
- Individual module details/grades can be provided upon request.

Additional qualifications

- A-Levels:
 - 3 A-Levels: Mathematics (A*), Further Mathematics (A), Physics (A).
 - 1 AS-Level: Chemistry (B).
- 10 GCSEs (4 A*, 5 A, 1 B) including A* grade Mathematics and A grade English Language

Experience

4GKi - Internship

September 2020 - October 2020

Newcastle-upon-Tyne

- Provided technological support with the design of a multi-generational ‘smart’ kitchen.
- Project involved implementing proposed ideas (e.g. a kitchen sink flood detection system) through interfacing software and hardware.
- Data analysis challenge required streaming data from the kitchen’s sensors to a PostgreSQL database running on the cloud.

ADLink - Industry Project

March 2020 - May 2020

Remote

- Part of my PhD training required cross-collaboration with industry on a technical problem.
- Developed statistical models for predicting the time taken for different edge devices, equipped with various hardware accelerators (e.g. GPU, TPU, VPU), when running popular object detection algorithms.
- Project goal was to be able to inform clients of the best edge-computing solution, based on the available hardware on the market, and the type of deep learning model they wanted to run.
- The group project was ran remotely due to the COVID-19 pandemic. This allowed for me to develop important remote working skills.

Teaching

Newcastle University

September 2021 - December 2021

Newcastle-upon-Tyne

- Practical demonstrator for undergraduate modules: Computer Systems Design and Architectures.

Talks

KTN A.i. at the Edge

December 2020

Remote

- Uneven and Irregular Surface Prediction using both Centralized and Decentralized Machine Learning Approaches

Additional Information

Other qualifications

- Full, clean U.K. Driving licence (2016).
- Proficient in Microsoft Office.