

Sept 2020 June 2020

Improbable, Software Engineer Intern

Integrated SpatialOS distributed event tracing into Unity GDK (Unity Game Development Kit)

> Worked on visualisation of distributed events from SpatialOS network

C/C++ C# Python Docker

Sept 2019 June 2019

**Apple**, Software Engineer Intern

> Developed a machine learning model for real-time image captioning

> Worked on a Safari App Extension to detect and fix accessibility issues on the Web in real-time

TypeScript JavaScript Swift Python Tensorflow

**EDUCATION** 

Present Oct 2020

University of Cambridge, MPhil Advanced Computer Science

Cambridge, UK

Virtual

London, UK

> Current Research: Model-based Reinforcement Learning for DNN compilers

> Courses: Machine Learning Systems, Large-scale data processing and optimisation, Mobile Systems Machine learning, Mobile Robot Systems

June 2020

University of Manchester, BSc (Hons) Computer Science

Manchester, UK

> First Class - Achieved 84% overall Sept 2017

> Final Year Project - Deep Reinforcement Learning in Atari 2600 games

Sept 2017

St Ambrose College, A-Levels

Hale, UK

Sept 2010 > Mathematics, Computer Science, Physics (A\* A\* A)

Volunteering

May 2020

UniCS Dev Officer, University of Manchester

May 2019

> Lead development of multiple sites and services to support Manchester Hackathons in a team of eight

> Developed a containerized applications platform and authentication service which are deployed onto AWS

May 2019

HackSoc Dev Team, University of Manchester

Sept 2018

> As part of a 5 person team developed a system used by over 600 people across three hackathons for hardware management and live notifications at Hackathons



## COMPETITIONS

Nov 2017

ACM ICPC North Europe Regional, University of Bath

> Competed in the European regionals for qualification for the world finals of ICPC

Nov 2017

**GreatUniHack**, University of Manchester

> Created Codeworks and won WebApplicationsUK challenge for best educational hack

Oct 2018

ACM ICPC UK & Ireland Programming Contest, University of Manchester

> Placed in the top 15% in UK and 2<sup>nd</sup> in Manchester Oct 2017

PROJECTS

MODEL-BASED RL FOR COMPUTER SYSTEMS C++ Python PyTorch

DEC 2020 - PRESENT

Using model-based RL to optimise computation graphs in deep learning frameworks.

DISTRIBUTED REINFORCEMENT LEARNING Python PyTorch TensorFlow Ray Investigated framework performance for performing distributed reinforcement learning using the PPO algorithm. DEC 2020 - JAN 2021

KNOWLEDGE DISTILLATION Knowledge Distillation Python PyTorch DEC 2020 - JAN 2021

Implemented various approaches for Knowledge Distillation of large neural networks to small networks while maintaining model accuracy.

SEPT 2019 - MAY 2020

DEEP Q-LEARNING - THIRD YEAR PROJECT Third Year Project Python Tensorflow Implemented three deep reinforcement learning algorithms to train an agent to play various Atari 2600 games.

HACKER SUITE Hacker Suite - Auth Hacker Suite - Applications GoLang TypeScript Docker

SEPT 2018 - PRESENT

A collection of services and websites to support Hackathons, including Applications, Hub and Authentication, used by over 600 people over two years and three hackathons. Lead development of the Applications platform and authentication service in a team of eight.