https://jack-willturner.github.io

#### **Education**

## **PhD Computer Science**

University of Edinburgh, 2018-2021

- Studying efficient learning and inference in neural networks under the supervision of Professor Michael O'Boyle and Dr Elliot J. Crowley.
- Cross-domain research resulting in papers at both machine learning (ICLR, NeurIPS) and computer systems (ASPLOS, IISWC) conferences.
- Organising committee member for 1st Workshop on Emerging Deep Learning Accelerators at HiPEAC 2019.
- Open source paper replications, tutorials on Gaussian Processes, Python.

## MSc Computer Science (Distinction)

University of Edinburgh, 2017-2018

- Modules on Machine Learning and Parallel Architectures with a project on accelerating training speeds for neural machine translation models.
- Thesis on hardware adaptive deep learning for embedded GPUs. Replicated deep learning papers in Python and C++ using PyTorch and Tensorflow.

## **BSc Computer Science** (1st class)

University of Birmingham, 2014-2017

 Specialised in machine learning and compilers. Final year courses on statistics, linear algebra and data analysis with project on using neural networks for enhancing stochastic process models.

# Technical Skills

**Programming Languages**: C, C++, Python, OCaml, Bash, CUDA.

Other: Deep learning, PyTorch, TVM, optimising compilers.

#### **Experience**

#### Part-Time Teaching Fellow

Cambridge Spark, 2020-current

Content development and tutoring for topics in machine learning and data science, such as introductions to NumPy, Pandas, SQL, and Bayesian Statistics.

## **Data Science Intern**

Lattice Training, 2017

Summer internship analysing athlete profiles and using machine learning to predict and develop areas of improvement for professional athletes.

## **Technology & Data Summer Analyst**

Morgan Stanley, 2016

Ten week internship in the Equity Derivatives team at Morgan Stanley. Worked as a full stack engineer building tools for investigating internal dataflow with Scala.

## Selected Publications

**Neural Architecture Search as Program Transformation Exploration.** J. Turner, E. Crowley, M. O'Boyle. *Conditionally accepted at Architectural Support for Programming Languages and Operating Systems, 2021.* 

**Neural Architecture Search Without Training.** J. Mellor, J. Turner, E. Crowley, A. Storkey. *Currently under submission*.

**Bayesian Meta-Learning for the Few-Shot Setting via Deep Kernels.** M. Patacchiola, J. Turner, E. Crowley, A. Storkey. *Advances in Neural Information Processing Systems*, 2020.

**BlockSwap: Fisher-guided Block Substitution for Network Compression.** J. Turner, E. Crowley, A. Storkey, M. O'Boyle, Gavin Gray. *International Conference on Learning Representations, 2020.*