

Robert Hardwick

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Education

2009–2013	MComp Artificial Intelligence and Computer Science (First-class honours), University of Sheffield.
2007–2009	Altrincham Grammar School for Boys Sixth Form College - A Levels in Mathematics, Further Mathematics, Physics and Computing
2002–2007	Altrincham Grammar School for Boys - 11 GCSEs

Employment

Feb 2018-Present	mindtrace.ai - Software Engineer (AI)
Sep 2013-Mar 2017	IBM Systems, Manchester - Backend Software Engineer

Relevant Experience

- As one of the earliest engineers mindtrace.ai I have been able to work on a variety of challenging AI and computer vision projects, adapting to the ever-changing company's needs.
 - In its early stages the company was focused on neuromorphic computing. During this period I worked closely with researchers to take novel event-based computer vision algorithms from research paper to live demonstration running on the neuromorphic processing architecture SpiNNaker. This involved mapping the algorithms to hardware in an optimal way (python) and then writing (c) and profiling the algorithms to be run on (fixed precision arithmetic) ARM9 cores.
 - Later I developed a demonstrator that used that same event-based vision sensor (DVS) but with more cutting edge deep learning techniques and processing hardware (Raspi4 and Google TPU). This involved some model fine-tuning, developing an inference pipeline and model optimization and profiling for edge device (tensorflow lite).
 - I also single-handedly developed an Android app (java) to showcase the company's "few-shot learning" technology to prospective customers and the board.
 - Most recently I have been working on a deep learning image segmentation framework (tensorflow) for industrial inspection applications. This has involved careful understanding of real-world customer data, preparing it for model consumption, and running training iterations to search for optimal model hyperparameters.
- In my personal time I have completed a number of Coursera.org courses and occasionally kaggle competitions in order to keep my skills relevant.
- I worked at IBM as a Software Engineer in Manchester for 4.5 years. I progressed from a Graduate Software Engineer to a Software Engineer after approximately 20 months. My role was to develop software for the IBM FlashSystem and IBM Storwize storage product families, a role which required collaboration on a with team members across the globe. The work involved designing, developing and maintaining new software features for the storage products which is mainly written in C code.

Skills

- Tensorflow, Keras, Python, Numpy, Pandas, C, C++, Linux, Qt, Dynamic Vision Sensors, SpiNNaker, ARM9, Interrupt-driven programming, Android Development, Deep Learning, Clustered Architecture, Network Storage Controllers, Agile Workflow, git, JIRA, Docker, TPU
- Coursera.org - Machine Learning by Stanford University (Dec 2015)
- Coursera.org - Deep Learning Specialism (Jan 2020)
- Intermediate Level Spanish

References available upon request