

Angus Pearson

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NATIONALITY British, Australian

DoB 1995-02-18

Overview

Independent, self-starter, keen learner and interested in many things.

Currently working at Citymapper as a senior routing engineer, and previously as a partners integration data engineer. Before Citymapper I was the CTO at Robotical, an educational robotics company based in Edinburgh. Graduated in 2017 from The University of Edinburgh in Artificial Intelligence and Computer Science (First, BSc Hons).

My interests and experience are broad both professionally and personally. Professional interests range from AI, ML, cryptography, distributed & decentralised systems and HCI to robotics, electronics, hardware & product design. Personal – I'm an avid reader, in to politics & economics, and also enjoy photography, walking, skiing and popular science.

Technical

LANGUAGES Python, C, HTML, CSS, \LaTeX , *some experience with* Rust, JavaScript, Bash, C++, Java, Haskell

TOOLS Git, AWS, Kubernetes, NumPy, Pandas, Matplotlib, *some experience with* TensorFlow, NLTK, Hadoop

DATABASES Redis ([Contributor](#)), SQL (Postgres, SQLite, Redshift), *some experience with* Tile 38, DynamoDB

HARDWARE KiCAD, EAGLE, FreeRTOS, *some experience with* Verilog on FPGAs

Work & Experience

Feb 2020 –
Present

Senior Software Engineer, Citymapper Ltd.

Senior Backend Engineer working on core routing (transit and graph-based) and product APIs for consumer mobile app frontend and B2B partners.

- Integration, evaluation and productionisation of routing engines for graph-based routing (e.g. walk, cycle, eBikes) into existing product, including aligning distinct routers' behaviour
- API design and specification, development of B2B [APIs](#)
- Platform & Infrastructure engineering and on-call for product availability and incident response.
- Data warehousing and GDPR-related policy input, compliance processes and related engineering.
- Improved third-party data ingestion systems and processing pipelines (similar to ETL/map-reduce) for 'floating' hire vehicles, e.g. docked cycle schemes, rental eScooters, hire cars.

<https://citymapper.com>

- Jun 2017 – Dec 2019 *CTO, Robotical Ltd.*
Engineering and managing core product, development team, technical applications, company IT and supporting systems.
- Design, Development and Deployment of: web analytics and content optimised for search (SEO), MRP/ERP systems, eCommerce, product marketing, customer support, user engagement and user documentation, digital marketing, print media, cloud infrastructure, ops and IT management.
 - Product design, embedded/IoT systems design and software for consumer electronics, including design for manufacture, design for production at both small and medium scale including manufacture & test fixtures (some articles ~2000 units per production run, others ~500,000 units).
- <https://robotical.io>
- Jun 2016 – Jun 2017 *Software and Electronics Engineer, Robotical Ltd. (Internship then Part Time during studies)*
Developed the control board for the robot as part of a Summer 2016 internship. Continued to work as a part time engineer during the following university year.
- Sept 2013 – Jun 2017 *'Tardis Project' Systems Administrator*
Student-run systems and network admin rack server 'sandbox', with 1000+ users. Administration involves server hardware deployment, virtualisation, networking, software service deployment, configuration and maintenance. During my time administering the system a full migration on to new hardware was completed.
<http://wiki.tardis.ed.ac.uk>
- Jan 2017 – May 2017 *System Design Project Course Demonstrator, University of Edinburgh*
The SDP course involved building a small wheeled robot, computer vision system and strategic control system to play robot football, based on the Robocup Small Size League. The role involved guiding a team of students through the course, checking on progress and helping the team organise.
<http://www.inf.ed.ac.uk/teaching/courses/sdp/>
- Dec 2014 – Jun 2015 *Full Stack Web Developer to build a Content Analysis tool (Contractor), GPB Consulting*
Development of a Natural Language processing (NLTK) and Python back-end, deployed on Heroku. The web app provides a set of market-leading measures of written content readability and complexity, used by the company in providing reports for clients.
<http://ca.gpb.eu>
- Sept 2014 – May 2015 *University of Edinburgh Computing Society President (CompSoc)*
Including organising of two large hackathons, 'Hack the Burgh' (Major League Hacking) and 'The Smart Data Hack', event management, society finances, logistics, marketing and sponsorship negotiation with companies including Google, Microsoft, Amazon, Bloomberg, Capital One, JP Morgan and Accenture.
<http://comp-soc.com> – <http://2015.hacktheburgh.com> – <http://smartdatahack.org>
- 2012 *Arkwright Scholar, Stannah Lifts Group*
Design and Technology Scholarship, included a 2 week internship where I developed a MP3-backed electronic sounder for a lift, that allowed different sound profiles to be loaded via a SD card.
<http://www.arkwright.org.uk/>

Education

2013-2017

BSc (Hons) Computer Science and Artificial Intelligence, University of Edinburgh
First Class with Honours

SOME COMPLETED COURSES:

Machine Learning Practical

Introductory Applied Machine Learning

Processing Formal and Natural Languages

Database Systems

Human-Computer Interaction

Intelligent Autonomous Robotics

System Design Project

Embedded Systems

Artificial Intelligence Large Practical

Reasoning and Agents

Extreme Computing

Probability & Applications

Algorithms, Datastructures & Learning

Robot Learning & Sensorimotor Control

Operating Systems

Computer Architecture