Angus Pearson

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GITHUB https://github.com/AngusP

Proactive software engineer with a strong foundation in Computer Science and Artificial Intelligence.
Broad experience working on vital backend business logic, data science, hardware engineering, manufacturing *&*
logistics; to frontend design and web development – always with attention to business and customer needs.

EDUCATION

2013-2017
BSc. First Class with Honours, University of Edinburgh
Computer Science and Artificial Intelligence

Work *&* Experience

Feb 2020 –
July 2024

Senior Software Engineer, Citymapper Ltd. (part of Via Inc.)
Backend Engineer working on core transit and graph routing for a consumer mobile app.

- Led the design, development, deployment and evaluation of machine learning models for prediction of which journey proposals will have the most user demand to maximise user satisfaction and click-through rate.
- Integration, development, evaluation and productionisation of core business-logic routing engines for graph-based (e.g. walk, cycle) and timetable-based (transit) routing, serving millions of requests daily across more than 100 cities worldwide.
- Built and maintained application-specific data ingestion/ETL and automated testing pipelines for transit and map data (GTFS, OpenStreetMap); and for transit agency data and private hire vehicle operator feeds for docked cycle schemes, taxis and private-hire vehicles (e.g. Uber).
- Championed data protection, compliance and related data engineering improvements.
- Led on reducing tech debt leading to infrastructure savings above £10k/month and improved engineering productivity.
- On-call engineer for platform and infrastructure, maintaining product availability for millions of users.
- Design, specification and development of B2B APIs for mobile and server-side applications.

https://citymapper.com – https://ridewithvia.com

Jun 2017 –
Dec 2019

CTO, Robotical Ltd.
Fullest-stack engineering and managing for core product, development team, eCommerce platform, order and logistics handling, company IT and supporting systems.

- Design, Development and Deployment of: web analytics and content optimised for search (SEO), MRP/ERP systems, eCommerce platform, 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 with runs exceeding 500,000 units, including design and construction of manufacture *&* test fixtures.

https://robotical.io

Jun 2016 –
Jun 2017

Software and Electronics Engineer, Robotical Ltd.
Internship then Part Time during studies
Developed the circuit 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

Technical Skills

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

TOOLS — AWS, Docker, Podman, Kubernetes, NumPy, Pandas, Tinygrad, MatPlotLib,
some experience with TensorFlow, Torch, Natural Language Toolkit (NLTK)

DATA — SQL: Postgres, SQLite, Amazon Redshift, Redis (Contrib.), Bitcoin Core (Contrib.),
some experience with Tile 38 (Geospatial), DynamoDB

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

University

2013-2017 — **BSc. First Class with Honours, University of Edinburgh**
Computer Science and Artificial Intelligence

SOME COMPLETED COURSES:

Machine Learning Practical	*Artificial Intelligence Large Practical*
Introductory Applied Machine Learning	*Reasoning and Agents*
Processing Formal and Natural Languages	*Extreme Computing*
Embedded Systems	*Computer Architecture*
Database Systems	*Probability & Applications*
Human-Computer Interaction	*Algorithms, Datastructures & Learning*
Intelligent Autonomous Robotics	*Robot Learning & Sensorimotor Control*
System Design Project	*Operating Systems*
Industrial Management	*Secure Programming*
Computer Security	*Discrete Mathematics and Mathematical Reasoning*

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 mentoring a team of students throughout the course, checking on progress and helping the team organise.
https://www.inf.ed.ac.uk/teaching/courses/sdp/

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 – https://2015.hacktheburgh.com – http://smartdatahack.org

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.
https://ca.gpb.eu

RIGHT TO WORK

United Kingdom and Australia by citizenship.