

# 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 –  
Jul 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

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### SOME COMPLETED COURSES:

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

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.