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Personal Profile

I am a computer science graduate now working as a software developer in the rail industry. I am a member of the IET, and professionally registered as an ICT Technician, working towards IEng. Throughout my degree, and my previous work, I have worked both independently and as part of multiple teams in a variety of roles, in both in-person and remote working environments. I am excited to continue my professional development and contribute to innovative and impactful projects

Work & Voluntary Experience

2023 - present: Software Technician, AGH Engineering, York
Leading a team developing software for the rail industry, working towards Incorporated Engineer status

2020 - 2022: President, Comic Society, University of York
Lead a team to host weekly events and foster a community, both in-person and online, during a difficult period for societies

2017 - 2019: Team Leader, Blue Ginger, Oldham
Managed a busy takeaway both individually and as part of a team. Co-ordinated employees, handled money and documented daily income and expenses. Communicated clearly with staff members for whom English is a second language

Education

2019 - 2023: MEng Computer Science, University of York

- Graduated with first-class honours
- Modules included Software Engineering, Data Science, Intelligent Systems, Evolutionary Computing and Computer Vision

2017 - 2019: The Blue Coat School, Oldham

- A Level: Mathematics (A*), Computer Science (A), Physics (B)
- AS Level: Further Mathematics (A)

2012 - 2017: Saddleworth School, Oldham

- 3 GCSEs: Grades 9-5 (including English and grade 9 Maths)
- 8 GCSEs: 2 A*s (Computer Science & Further Mathematics), 6 As

Technical Skills

- Quick to learn new programming languages and tools
- Coding skills in Python, Java, HTML and JavaScript. Experience with C & Haskell.
- Experience with Django web framework, including use in complex projects
- Experience with SQL, including complex requests as part of previous projects
- Experience with machine learning libraries such as PyTorch and Scikit-learn
- Experience with Git, as well as Continuous Integration practices
- Experience with lesser-known languages and tools such as EssencePrime & Savile Row, the Eclipse EMF, and the KWin scripting API
- Experience using Windows and Linux (both command line and desktop environment)

Projects

2023-25: ORBIT

ORBIT is a web app providing users with detailed information on assets, currently those responsible for signalling power within Network Rail's North & Eastern Route, allowing for the assets to be plotted on a map and displayed in a signalling power diagram, in addition to presenting assets' insulation monitoring data in a more human-readable format. Took ownership of the project upon joining AGH which had been started by a year in industry student, led a team to design & implement further improvements necessary to prepare the software for launch, and worked with the client to lead a scheme to gather and prepare large amounts of data to be uploaded to the service. Identified further improvements and features to be added to the software after launch to improve user experience

2025: Fatigue management & timesheets tool

Led a team to develop a web service to use for AGH's timesheets, capable of automated fatigue management calculations compliant with Network Rail requirements, converting hours worked into billable hours and automatically adding them to WorkflowMax via an API

2023-24: Heatmap feasibility study

Upon request of Network Rail, designed and developed a piece of software to demonstrate two methods of presenting data on historical and planned works. The software allows users to identify conflicts in work, such as when two pieces of work are planned at the same location at the same time. It is believed that this study could later be developed into a tool to be used within Network Rail

2023: Master's Group Project - Mars Rover & Digital Twin

Worked as part of a team to create a "Mars rover" using the Lego Spike kit, and a corresponding digital twin. Implemented a message system for hub-to-hub communications using Pybrick's Bluetooth data broadcasting feature. Wrote rover logic, including an emergency stop system, using the MicroPython-based Pybricks API

2022-23: Classification & Generation of Images

Used PyTorch to create a convolutional neural network to classify hand drawn tree symbols, and created a generative adversarial network to generate tree symbols of specific classes

2021-22: Third Year Project - How Important is a City Street?

Identified ideal streets for pedestrianisation, using Python and data from OpenStreetMap to estimate the importance of streets using the Eigendata Centrality, and performed simple traffic flow analysis to estimate the impact of closing important roads to vehicles

2018: Menu Streamlining

Developed a set of tools to streamline the menus of restaurants and fast food businesses. Used Java and MySQL to analyse a set of menus, recipes, and sales data to identify ingredients required for dishes that make a low overall profit. The tools considered the cost to purchase ingredients, the price of dishes, and the sales figures for every dish