Sam Turner

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EDUCATION

University of Warwick — Coventry, UK
Bachelor of Science in Computer Science — *Sep. 2024 – July 2027*

Finham Park 2 Secondary School — Coventry, UK
4 A*s at A-level in Mathematics, Further Mathematics, Computer Science and Physics — *Sep. 2017 – Jun. 2024*

EXPERIENCE

Incoming Undergraduate Researcher in Artificial Intelligence — Jun. 2025 - Oct. 2025
Dept. of Computer Science, University of Warwick — *Coventry, UK*
- Developing and verifying Reinforcement Learning robustness techniques for Group Relative Policy Optimisation
- Testing applications of our research, including to fine-tuning of LLMs to improve performance in reasoning tasks

Vice President — Mar. 2025 - Present
Warwick Artificial Intelligence — *Coventry, UK*
- Liaising with global technology companies to organise sponsorships and career events for our annual summit
- Organising interesting academic events for members and assisting the president to lead the society forward

Open Source Contributor — Sep. 2023
NVIDIA (the RAPIDS AI project) — *Remote*
- Developed a new feature for NVIDIA's GPU-accelerated dataframe library downloaded by over 500,000 developers
- Collaborated with an international team to ensure the high standards of code quality and documentation are met
- Proactive in ensuring all edge cases are covered and exhaustive unit tests are added to improve maintainability

Software Engineering Placement — July 2023
Rolls-Royce — *Birmingham, UK*
- Built a coherent system in Python to interface a calculation program used to analyse safety-critical bolts
- Improved workflow for engineers completing a structural assessment as part of the certification for jet engines
- Automated procedures including caching standard parts and compiling assessment results into a single document
- Delivered and communicated a solution to the team which fully met their needs and requirements

PROJECTS

Password Manager | *JavaScript, Node.js, PostgreSQL, Redis, Bash, Docker, Git* — May 2023 – April 2024
- Developed a sophisticated full-stack web application using Node and Express which served a REST API
- Implemented industry-standard authentication and key exchange protocols including SRP and HMAC signing
- Documented the design and implementation of complex algorithms through a detailed technical report
- Ensured the security of user data in the database and Redis cache with tested encryption algorithms such as RSA

Local Weather Prediction | *Python, Tensorflow, Raspberry Pi, pandas, NumPy, Git* — June 2023 – Jan. 2024
- Built a weather station using a Raspberry Pi and various electronic components, microchips and sensors
- Utilised a historical weather dataset provided by the Met Office to train a CNN-LSTM ML model in Tensorflow
- Optimized model performance and training speeds with modern tooling to push the limits of available hardware
- Verified the accuracy of the model by using data from my own weather station as the validation dataset

EXTRACURRICULARS

Mathematics for Machine Learning Certification — July 2023 - Aug. 2023
Imperial College London — *Remote*
- Deepened my knowledge of maths critical to Machine Learning, such as linear algebra and multivariate calculus
- Consolidated these concepts by implementing a neural network and backpropagation from scratch in NumPy
- Tested the neural network with the popular MNIST dataset, in order to label a handwritten digit from an image

TECHNICAL SKILLS

Languages: Python, C#, JavaScript, Rust, Java, Bash, SQL (Postgres), HTML/CSS, Lua
Frameworks and Libraries: NumPy, pandas, cudf, Tensorflow, Matplotlib, Node.js, Express, Django, Unity, Godot
Developer Tools: Git, GitHub, Linux Utilities, Docker, Jupyter Notebooks, VS Code, NeoVim, PyCharm