

Thiruwaran Calvin

University Of Liverpool [linkedin.com/in/t-kalvin](https://www.linkedin.com/in/t-kalvin) github.com/t-kalv Website

Education

Univeristy Of Liverpool - BSc Hons, Computer Science with Artificial Intelligence September 2024 – June 2027

- Year 1: **First-Class**
- **Relevant Modules:** Introduction to Artifical Intelligence, Deep Learning, Data Structures And Algorithms, Object Orientated Programming, Programming Language Paradigms, Computer Systems, Analytic Techinques for Computer Science

Work Experience

Rocket Team - Software Engineer And Project Lead, LASER (Liverpool Association For Space Engineering And Research) - Part-time, Liverpool - UK, Hybrid October 2024 – Present

- Implemented **Python and Adafruit's documentation** to interface with sensors including BMP390, MPU6050, H3LIS331, and the Raspberry Pi Camera Module 3, **enabling accurate data collection** for obtaining rocket telemetry.
- Influenced the design and schematics of the flight computer, **integrating 5+ electrical components and sensors, improving overall optimal system performance by 30%.**
- Collaborated with a **multidisciplinary team of 11+ engineers** to develop and implement the rocket's electrical systems, fostering a culture of **innovation through shared ideas and problem-solving.**
- Conducted thorough **research and comparative analysis of 10+ critical components**, including sensors and microcontrollers, to **inform design decisions and enhance system reliability.**
- Developed and incorporated **logical and analytical solutions to communication challenges** between the rideshare flight computer and ground control, **improving operational efficiency.**

IT Consultancy And Computer Technician, Retail Guys Ltd - Part-time, Manchester September 2021 – Present - UK, Hybrid

- Executed crucial roles including **software/hardware installation for over 50+ systems**, video tutorial creation, **database entry for 500+ records**, and consultancy.
- Recorded **20+ app video tutorials, effectively communicating with clients/users** in a straightforward manner, regardless of technical knowledge.
- Analyzed client interactions to identify potential system manipulations, **preventing 3+ unauthorized access to applications outside the main software.**

Projects

Simple MNIST Digit Classifier Neural Network | Deep Learning Research Project/Research Paper July 2025 - Present

- Developed a **Python Neural Network** from scratch to **recognize handwritten numerical digits** from the MNIST dataset, **utilising 7960 trainable parameters** with Forward/Backpropagation, ReLU, Softmax activation functions.

StudyShorts | Java App | Source Code August 2025

- Developed a **full-stack Java study quiz flashcard app** with **Java Swing Frontend** and **MySQL Backend** that enables users to **create and study questions** through **engaging short-form video content.**

Interactive Black-Scholes Option Pricing Model | Website | Source Code August 2025

- Implemented a Black-Scholes **Option Pricing model** for **European options** using **Python Backend and Streamlit Frontend, Yahoo Finance API and SQLite Backend** that calculates option prices, estimates implied volatility and visualises data.

Formula 1 Driver Stats | Website | Source Code August 2025

- Implemented F1 Driver Stats **full-stack Java Web App** with a **Spring-Boot, PostgreSQL Backend and HTML/JS Frontend** providing users with **information about the 2024 season via a search interface.**

Technical Skills

- **Languages:** Python, Java, SQL, C#, C, HTML, CSS, Haskell
- **Developer Tools:** GitHub, Git, Linux, VS Code, IntelliJ, Jupyter
- **Libraries/Frameworks:** Streamlit, SQLite, MySQL, PyTorch, Spring Boot, Swing