# Liam Christian

#### **EDUCATION**

#### City, University of London

London, UK

Bachelor of Science in Computer Science

Sep. 2025 - May 2028

#### EXPERIENCE

### Software Engineer

2025 - Present

NATO Studentship (SAPIENCE Competition)

- Developing software for a pair of communicating, autonomous drones designed for search and rescue in GPS denied indoor and outdoor environments.
- Led the development of the computer vision system by designing, training, and deploying a custom Machine Learning object detection model to an onboard NVIDIA Jetson for real time target identification.
- Engineered the multi-sensor fusion pipeline for the SLAM algorithm, integrating data from LiDAR, IMU, infrared, and traditional cameras to achieve highly accurate, real time localisation and mapping in complex environments.

Head of Firmware 2025 – Present

University Formula Student Team

- Leading a team of 6 software and firmware developers in the design, development, and testing of the vehicle's embedded control systems.
- Engineered the team's core Hardware in the Loop testing tool, a GPS simulator for validating navigation systems. The tool simulated realistic vehicle dynamics (NumPy, SciPy) and could intentionally generate faulty data streams to stress test system resilience before streaming to the vehicle's CAN network.
- Developed the real time data acquisition and analysis pipeline, processing CAN bus telemetry and using a live visualisation dashboard to help diagnose faults and inform engineering decisions.

# Diverse Professional Experience

2018 - 2024

Game Testing, Acting, Teaching & Management

- Through Game Testing at Lionbridge, responsible for QA, identified and reported critical bugs.
- Complemented this technical focus with prior roles as an Actor, Swim Teacher, and Sports Club Manager, honing key skills in client facing communication, project coordination, and adapting to precise feedback under pressure.

# PROJECTS

#### NASA Space Apps Challenge | Python, OpenCV, React, JavaScript

- Achieved first place in the United Kingdom in a 48 hour hackathon by co-developing a prototype for an autonomous hydroponics system for a Mars mission.
- Contributed to both the back end computer vision system using Python and OpenCV, and the front end monitoring dashboard using React and JavaScript.

# Spotify Rust Web Client | Rust, WebAssembly (WASM), Egui, Spotify API, OAuth 2.0

- Engineered a high performance web client by compiling a Rust codebase to WebAssembly, securely interfacing with the Spotify API via the OAuth 2.0 authorisation flow.
- Designed and implemented a custom, tileable windowing interface using egui to solve a key user experience limitation in the official Spotify client.

#### Sainsbury's Product Scraper | Python, MySQL, Multithreading, Data Pipeline, Reverse Engineering

- Created a multithreaded Python scraper to process over 40,000 products daily, creating an automated data pipeline to track price history and identify significant discounts.
- Designed a robust data normalisation system to handle complex and inconsistent pricing data for reliable storage in a relational MySQL database.

# TECHNICAL SKILLS

Languages: Python, Rust, JavaScript, C++, TypeScript, Java, SQL, HTML/CSS

Web Development & APIs: React, WebAssembly (WASM), Egui, Netlify

Data Science & Machine Learning: NumPy, SciPy, OpenCV, PyTorch, Computer Vision Developer Tools & OS: Git, Docker, Windows, Linux (Ubuntu, Bash), VS Code, IntelliJ

Databases: MySQL, PostgreSQL

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