

Viswa Marepalli

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EDUCATION

Imperial College London

MEng, Electronic and Information Engineering

London, UK

Sept 2025 — Present

Dartford Grammar School

International Baccalaureate

Dartford, UK

Sept 2023 — May 2025

- Achieved 40/45 points, with 7/7/7 at Higher Level.

EXPERIENCE

Avionics Software Engineer

Feb 2026 — Present

Karman Space Programme

London, UK

- Engineered robust systems for reading Pressure Transducers and Thermocouples, sending readings over CAN Bus to the onboard Flight Computer.
- Developed a Mission Control dashboard with Grafana and InfluxDB for the Vega Rocket, allowing the launch team to control ground-station equipment to fill the rocket with IPA propellant, LOX and Nitrogen gas. The dashboard has also been designed to receive telemetry data from the rocket during flight over radio frequencies, including Pressures, Temperatures, Valve States and Kinematics data.

Avionics Engineer

Nov 2025 — Present

Project Stratus - Imperial College Space Society

London, UK

- Designed dedicated Sensor, Recovery and Power boards in KiCad for future and current High Altitude Balloon missions.
- Engineered a last-gasp circuit via a capacitor-based energy buffer, providing the board with 200ms of auxiliary power to ensure a safe shutdown and data persistence during power transients.
- Developed C firmware for Sensor boards, communicating with multiple sensors via I2C and streaming processed sensor data to a Raspberry Pi via UART for real-time ML processing, implementing watchdog timers to overcome hung I2C buses and UART buffer overruns.
- Designed an electrical Nichrome wire burn system utilizing a Logic-level MOSFET to release the parachute from the payload.

Software Engineering Intern

Jul 2025 — Jul 2025

Autumn (YC S25)

London, UK

- Rewrote Python SDK to adhere to PEP8 and other industry conventions. Introduced AsyncIO support and wrote a server handler mountable to any ASGI app; fully compatible with the JavaScript SDK.
- Wrote Autumn's new CLI tool, allowing users to onboard onto Autumn by creating/editing pricing plans from the terminal and a typed TypeScript configuration.
- Built usage limits, allowing users to set limits on how much a pricing plan can be used, e.g: \$0.05 per chatbot message up to 1000 chat messages.

PROJECTS

Maintainer, Rogue Firmware

Sept 2025 — Present

- Built a hobby firmware in Rust for the Raspberry Pi 4B's ARM Cortex A72 quad-core BCM2711 SoC, implementing GPIO and UART operations using Memory-Mapped IO operations, taking advantage of Rust's safety features to prevent invalid states and race conditions.

IRIS Big Data: ATLAS

October 2023 — Jan 2024

- Researched the Z^0 boson and led a team of five, writing a research poster titled: ***Finding the invariant mass of the Z^0 boson via decay product summation.*** Presented our findings at a research conference in London.

SKILLS

- **Languages:** Python, Rust, TypeScript, C/C++, SystemVerilog
- **Technologies:** KiCad, React, Tailwind CSS, Git, Docker, Django, FastAPI, GitHub Actions, PostgreSQL