Viswa Marepalli

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Education

Imperial College London — London, UK
MEng, Electronic and Information Engineering — *Sept 2025 — Present*

Dartford Grammar School — Dartford, UK
International Baccalaureate — *Sept 2023 — May 2025*

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

Experience

Electronics and Software Engineer — Nov 2025 — Present
Project Stratus - Imperial College Space Society — *London, UK*

- Prototyped sensor circuitry for upcoming High Altitude Ballooning (HAB) missions and introduced C code for logging environmental data at adjustable frequencies.
- Diagnosed and fixed existing brownout issues causing data corruption and unreliable SD card module function.
- Converted the prototyped electronics to a PCB design with KiCad, performed continuity checks on the manafactured PCB and integrated board into the final assembly.
- Designed a last-gasp power circuit for future missions to provide us with 200ms to respond to a power outage, ensuring data integrity and a safe unmount of the data file system.

Software Engineering Intern — Jul 2025 — Jul 2025
Autumn (YC S25) — *London, UK*

- Rewrote Python SDK to adhere to PEP 8 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 all from their code-base and their command line using 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**. Implementation required adjustment of server routes, updates to React components and universally accepted DX.
- Collaborated with two founders and one other intern on initial ideas for scaling and CLI DX.

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.
- Implemented GPIO and UART operations using Memory-Mapped IO operations, taking advantage of Rust's safety features to prevent invalid states and race conditions.
- Wrote a linker script by adapting existing scripts written for projects written in C. This involved adjusting start addresses, referring to the peripherals datasheet.

Maintainer, imoog (github.com/justanotherbyte/imoog) — Nov 2021 — Apr 2022

- Built a content delivery node in Python using Starlette, storing files via pluggable database backends, with out-of-the-box support for PostgreSQL and MongoDB.
- Supports pluggable caching backends, with default support for in-memory and Redis caches.
- Rewrote in Rust using tokio's eco-system and axum to experiment with performance improvements.

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