

ELLIOTT VARASDI

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PROFESSIONAL SUMMARY

Third-year Electrical & Computer Systems Engineering (Honours) and Computer Science student at Monash University, with hands-on experience in digital hardware design, embedded systems, and low-level software. Comfortable at the hardware/software boundary: designing CPUs in Verilog, deploying on FPGA, and writing performance-critical C/C++. Proficient with writing efficient Algorithms/Data structures to solve complex problems.

TECHNICAL SKILLS

Languages	C, C++, Python, Verilog, Typescript, Haskell, Matlab
Hardware	FPGA development, digital logic design, computer architecture, HDL, circuit design
Software	OpenGL, embedded systems, Unix/Linux, Git, data structures & algorithms

PROJECTS

C++ Software Rasteriser

github.com/Vara112/OpenGL-Rasterizer

Custom software rasteriser in C++ implementing the full graphics pipeline from scratch - designed as a hardware-translatable pipeline bridging to the Verilog GPU above. Meant to serve as a stepping stone before building a FPGA GPU

- Built vertex processing, rasterisation, fragment shading, and depth buffering from first principles

Medithon Biomedical Hackathon Melbourne University – placed 3rd

[github.com/Vara112/ Eye-Tracker-Medithon2026](https://github.com/Vara112/Eye-Tracker-Medithon2026)

Worked in a small team to designed and pitch AR glasses with built in pupil tracking that would control a virtual AAC board in the display, allowing stroke victims to communicate. A physical prototype was constructed consisting of a camera attached to glasses which through computer vision, would allow the user to control a PC simply by moving their eye.

- Followed the Stanford Biodesign Process to develop Needs Finding, Concept Generation, Implementation
- Python computer vision set up utilising CV2 to detect pupil movement
- Using Parallel Computing, workload was split amongst two threads utilising memory locks to improve speed and efficiency

Melbourne Game Jam 2026 - Physics Engine

github.com/Noskajj/Game-Jam-Jan-2026

Custom 3D physics engine in Unity (C#) built from scratch in 48 hours - collision detection, rigid-body dynamics, gravity, and impulse resolution via vector mathematics.

EXPERIENCE

Teaching Assistant - Monash Coding Bootcamp

2026

Monash University

- Mentored students through programming fundamentals, debugging, and introduction to software design
- Communicated technical concepts in a simple way to learners who consist of varying prior experience

Marketing Director - Society of Monash Electrical Engineers (SMEE)

2024 – 2025

Monash University

- One of the leads for organising C/C++ workshops, a robot-building competition, and technical events
- Coordinated other university group sessions

Service Supervisor - Woolworths Heidelberg

2023 – Present

- Supervised team operations, trained new staff, and resolved complex customer and operational issues

EDUCATION

Bachelor of Engineering (Honours) - Electrical & Computer Systems Engineering

2024 – 2028

Monash University

Bachelor of Computer Science - Software & Algorithms

2024 – 2028

Monash University

COMPETITIONS & OTHER

Medithon Health Hackathon 3rd Place - 72-hour health-tech hackathon, University of Melbourne

2026

SMEE C Workshop Organiser and Tutor – Small few hour club run C workshop to help 2nd year students

2026

Algothon 2026 — Competitive algorithm challenge (Python)

2026

Melbourne Game Jam 2026 - 48-hour game jam — see Physics Engine project above

2026