

Manav Dodia

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EDUCATION

University of New South Wales

Feb. 2022 – Feb. 2025

Bachelor of Computer Science (Security Engineering Major) with Distinction

Sydney

- **Notable Coursework:** Security Engineering, Web Application Security, Digital Forensics, Cloud Security, Computer Networks, Operating Systems, Advanced Algorithms
- **Extracurricular Activities:** Computer Science Mentor, Security Society (Conferences), Mathematics Society (Careers), CSEsoc (Competitions), SCONES CTF Winner, BEEM Hackathon Winner

EXPERIENCE

Full Stack Software Engineer

July 2024 – Dec. 2024

Mira

Sydney

- Developed a full-stack web application for automated calendar scheduling with Next.js, Supabase and TailwindCSS
- Implemented API routes, database schema, JWT authentication, scheduling algorithm, and Google Calendar sync
- Deployed to AWS (EC2 + S3) with a CI/CD pipeline, ensuring scalable and reliable deployments

Software Engineer Intern

March 2023 – June 2023

GreenCollar

Sydney

- Developed a Python-based data ingestion and automation pipeline leveraging the Sentinel-2 API to retrieve, process, and deliver satellite data for environmental analysis
- Designed asynchronous data ingestion, caching, and retry mechanisms, reduced data acquisition time by 20mins/day for 10 employees and boosting reliability by 30%

Mathematics Tutor

Jan. 2023 – May 2023

Tinkertank

Sydney

- Taught 15 High School Students programming fundamentals, engineering, and advanced mathematics.

PROJECTS

SimplyServed | *Python, Flask, APIs, JavaScript*

Oct. 2025

- Engineered a full-stack, self-hosted media streaming platform from scratch using Python Flask, NGINX, and Cloudflare Access, enabling authenticated remote multi-user service
- Built backend automation for media retrieval (FFmpeg), metadata processing, and streaming via API endpoints
- Deployed on a Linux server with HTTP byte-range streaming, and Cloudflare Tunneling

TranquilityOS | *C, Assembly*

June 2025

- Built a 32-bit x86 Simple Operating System entirely from scratch, including custom BIOS bootloader and kernel
- Designed page mapping, stack management, memory management and virtual memory layout
- Implemented a VGA text driver, file system, keyboard driver, and a syscall interface - engineering for scalability
- Optimised OS to achieve an end-to-end kernel boot latency of <1.2ms, 3x faster than GRUB

FairShare | *Next.js, React, PostgreSQL, TailwindCSS*

Jan. 2025

- Built a complete web application using Next.js, Supabase, and TailwindCSS that automates multi-user finances
- Implemented a pub-sub architecture using Supabase's real-time database for live multi-user payment statuses
- **Won 1st Place at UNSW Software Society Annual Awards**

Structs.sh | *React, TypeScript*

Sep. 2024

- Engineered an internal documentation and education platform for instructors using React, TypeScript and MDX
- Integrated embedded code blocks, data-structure visualisation and quizzes to increase engagement by 25%
- adopted by the internal team of 15 instructors to build 50+ pages, reducing write-up time by 80%

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, C, SQL, HTML/CSS, (Familiar: C++, Java)

Frameworks: Next.js, React, Flask, Tailwind CSS, Material-UI, PostgreSQL

Developer Tools: Git, Docker, Linux, Bash, AWS (EC2, Lambda, S3), Supabase, Vercel, Cloudflare

Security Tools: Wireshark, Burp Suite, Autopsy, OWASP ZAP, Metasploit, Nmap, Netcat, Hashcat

Libraries: JWT, requests, FFmpeg, three.js, NGINX