

Manav Dodia

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EDUCATION

University of New South Wales	Feb. 2022 – Feb. 2025
<i>Bachelor of Computer Science (Security Engineering Major) with Distinction</i>	Sydney
<ul style="list-style-type: none">Notable Coursework: Security Engineering, Web Application Security, Digital Forensics, Cloud Security, Computer Networks, Operating Systems, Advanced AlgorithmsExtracurricular 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
<i>Mira</i>	Sydney
<ul style="list-style-type: none">Developed a full-stack web application for automated calendar scheduling with Next.js, Supabase and TailwindCSSImplemented API routes, database schema, JWT authentication, scheduling algorithm, and Google Calendar syncDeployed to AWS (EC2 + S3) with a CI/CD pipeline, ensuring scalable and reliable deployments	
Software Engineer Intern	
March 2023 – June 2023	
<i>GreenCollar</i>	
<ul style="list-style-type: none">Developed a Python-based data ingestion and automation pipeline leveraging the Sentinel-2 API to retrieve, process, and deliver satellite data for environmental analysisDesigned 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	
<i>Tinkertank</i>	
<ul style="list-style-type: none">Taught 15 High School Students programming fundamentals, engineering, and advanced mathematics.	

PROJECTS

SimplyServed <i>Python, Flask, APIs, JavaScript</i>	Oct. 2025
<ul style="list-style-type: none">Engineered a full-stack, self-hosted media streaming platform from scratch using Python Flask, NGINX, and Cloudflare Access, enabling authenticated remote multi-user serviceBuilt backend automation for media retrieval (FFmpeg), metadata processing, and streaming via API endpointsDeployed on a Linux server with HTTP byte-range streaming, and Cloudflare Tunneling	
TranquilityOS <i>C, Assembly</i>	
June 2025	
<ul style="list-style-type: none">Built a 32-bit x86 Simple Operating System entirely from scratch, including custom BIOS bootloader and kernelDesigned page mapping, stack management, memory management and virtual memory layoutImplemented a VGA text driver, file system, keyboard driver, and a syscall interface - engineering for scalabilityOptimised OS to achieve an end-to-end kernel boot latency of <1.2ms, 3x faster than GRUB	
FairShare <i>Next.js, React, PostgreSQL, TailwindCSS</i>	
Jan. 2025	
<ul style="list-style-type: none">Built a complete web application using Next.js, Supabase, and TailwindCSS that automates multi-user financesImplemented a pub-sub architecture using Supabase's real-time database for live multi-user payment statusesWon 1st Place at UNSW Software Society Annual Awards	
Structs.sh <i>React, TypeScript</i>	
Sep. 2024	
<ul style="list-style-type: none">Engineered an internal documentation and education platform for instructors using React, TypeScript and MDXIntegrated 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, Matasploit, Nmap, Netcat, Hashcat

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