James Ridey

Sydney, Australia · Australian citizen (E-3 eligible) · Relocating to the San Francisco Bay Area
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Full-stack engineer with five years at Canva, now the primary owner of Nullify's rebuilt frontend. I enjoy hard debugging and performance work, from framework internals to Go services and CUDA kernels.

Technical Skills

Professional: TypeScript, JavaScript, React, Next.js, Go, Python, AWS Lambda.

Tooling: Vite, Playwright, Storybook, ESLint, FastAPI, RAG interfaces, LLM-assisted development.

Projects: C/C++, CUDA, Verilog, Arduino, ESP32, STM32, PCB design.

Professional Experience

Nullify, Product Engineer (AI application security) Mar 2026 – present

- Primary owner of the rebuilt frontend for Nullify's security platform: introduced Vite and an atomic component architecture (470 components) and built most features. Cut the compressed initial JS and CSS from **932 to 453 kB**.
- Removed OpenAPI reflection from Go Lambda startup, cutting initialisation from **1.9 s to 1.1 s**; reused a persistent Python process to cut warm-invocation startup overhead from **9.7 s to 50 ms**.
- Traced a Next.js upgrade bug where links silently stopped working by stepping through the framework's client code against its source; isolated a prefetch receiving HTML instead of RSC data.
- Built visual regression checks (Playwright, Storybook, ImageMagick) and end-to-end tests. Defined ESLint rules for dependency direction, colour tokens, and shared primitives after AI-generated code kept repeating mistakes.

Canva, Software Engineer 2020 – 2025

- Rendered Magic Design previews outside the editor by adapting the editor's canvas renderer instead of building a new one; agreed the reuse with the editor team.
- Built Team Brain's frontend with one backend engineer: a working RAG prototype answering questions from documents.
- Redesigned Marketplace search filters, reducing API response time; added Forms, Polls, and Quizzes to search.

Google, Software Engineer Intern 2017 – 2019, two summer internships

- Reverse-engineered a factory-test app and found command injection in its network diagnostic, enabling development access on a retail KaiOS phone. Ported Neighbourly under tight app-size and 512 MB RAM limits; wrote the first porting spec.

ThoughtDesign, Junior Software Engineer 2014 – 2017

Independent Projects & Contributions

OnnxStream & e-paper art frame C++ inference, Raspberry Pi

- Added SDXL Turbo support to OnnxStream, adapting tensor dimensions and tiled decoding; fixed tokenisation and VAE scaling bugs. Maintainers accepted five PRs.
- Built a Raspberry Pi e-paper frame that generates images locally every day, with a FastAPI service, web controls, and display colour processing.

Minecraft pack.png seed search CUDA, GPU profiling

- Used NVIDIA Visual Profiler to find threads exiting early in a GPU seed search. Splitting filtering and tree-position work into separate CUDA kernels gave a **2x speedup**.

JRB8 computer Verilog, compilers

- Designed an 8-bit CPU, tested it in simulation and on a Tang Nano 9K FPGA, and had it fabricated through Tiny Tapeout. Built its assembler, language, compiler, and a browser-based compile-flash-run tool.

Brother embroidery cartridge Hardware reverse engineering

- Dumped cartridge memory with an Arduino reader and decoded the stitch data from hex. Built a replacement cartridge the machine accepts; others have reused the published code and findings.

Security

Flare-On: every challenge 2022–2025, 157th of 4,100+ in 2025 · Burp Suite Certified Practitioner (2026) · DEF CON IoT course

Education

Macquarie University, BEng (Honours), Software Design 2016 – 2020