

I am a full-stack software developer with experience leading small development teams to build production ready end-to-end systems. Comfortable working across backend, databases, DevOps, and team coordination, with a focus on building reliable, scalable applications.

Work Experience

Lead Backend Engineer

UNSW Founders 10x Accelerator

Ladder.inc

Sydney, Australia

Jun 2025 – Jan 2026

- Led a team of 6 engineers to design and deliver two production backend services powering the company's MVP.
- Owned and architected backend systems to support 5,000+ users, planning for integration with schools and large-scale onboarding using Express, Supabase (PostgreSQL, Auth), and Zod for schema validation, with Zod OpenAPI generating contract-first API documentation.
- Established local development and testing workflows using local Supabase and Jest, supporting both integration and unit testing and improving trust between frontend and backend.
- Collaborated closely with frontend engineers to design APIs consumed by a React app using TanStack Query, shadcn/ui, and Tailwind CSS.
- Owned backend deployment and infrastructure, implementing CI/CD with GitHub Actions and provisioning cloud resources on AWS using Terraform.
- Oversaw and guided machine learning development, supporting the design of a GNN-based matchmaking system.
- Built a local admin dashboard (React + Express) and packaged it as a Tauri desktop app, enabling offline access and simplifying internal operations.

Technologies and Languages

- Languages: JavaScript, C / C++, Rust, Python
- Technologies: PostgreSQL, AWS, Git, React, Node.js, WebSockets, Docker, Linux, Tauri, Supabase, Express

Projects

Real-time Markdown Editor (in progress)

<https://github.com/NathanTheDev/LiveCode>

Personal project

- Building a real-time collaborative markdown editor with WebSockets and CRDT for conflict resolution.
- Rust backend handles low-latency synchronization, session management, and CRDT operations for performance and reliability.
- Express backend provides REST endpoints for user management, document storage, and version history, backed by PostgreSQL.
- React UI includes live preview rendering and Markdown parsing, with a focus on responsive UX.
- Working toward offline-first support and persistent version history for robust collaboration.

Education

- **B.Sc. Computer Science (Double Degree)**, University of New South Wales. 2022–2026 (expected)
- **B.Sc. Economics (Double Degree)**, University of New South Wales. 2022–2026 (expected)