
Hayden Austin

Software Engineer

haydaust@gmail.com | [GitHub](#) | [Portfolio](#)

Software engineer building business applications, mobile data workflows and document/audio tools. Independent research in recurrent models, GPU execution and numerical validation.

SELECTED ENGINEERING WORK

Business applications & custom CMSs | [Project overview](#)

- Built React/TypeScript catalogues and administration tools for products, publishing, media and staff permissions.
- Implemented Firebase services, spreadsheet workflows, server rendering and automated access-rule and release checks.

Agronomy field records (in development) | [Project overview](#)

- Developed React Native/Expo records with SQLite persistence, retry-safe uploads and retained correction history.
- Integrated validated weather forecasts with caching, freshness indicators and explicit missing-data states.

Independent GPU & ML systems research | [Code & tests](#)

- Implemented recurrent state-space models and parallel scans, integrating custom C++/CUDA and Triton kernels with PyTorch autograd.
- Built tests for outputs, gradients and streaming equivalence against reference implementations, with reproducible benchmarks and artifact-integrity checks.

Audio-enhanced EPUB tooling (in development) | [Project overview](#)

- Developed Python PDF/OCR conversion, recorded-speech alignment and generated-narration components for EPUB media overlays.

EXPERIENCE

Freelance Developer

2023 - 2025

- Developed web applications for commerce and professional services, covering product catalogues, authentication, content management and deployment.

Game Server Developer & Administrator

2019 - 2022

- Built event-driven Java plugins with persistent item metadata and server API integrations; maintained Linux servers and investigated performance issues.

TECHNICAL SKILLS

Applications: TypeScript, React, React Native/Expo, Node.js, Firebase

Data & delivery: SQLite, PostgreSQL, SQL, Git, Linux, automated testing, CI/CD

ML & programming: Python, PyTorch, JAX, C++/CUDA, Triton; Java and C#

EDUCATION

Belgium Campus ITversity

Studies toward a Bachelor of Computing, specialising in Software Engineering.