Adrian

Founder & Software Engineer | AI, Full-Stack, Systems Engineering

Rust / Java / Python

Experience

Founder & Software Engineer *(Independent)* | November 2023 - Present

- Secured and executed a six-figure client contract delivering AI-powered systems prior to pivoting into product development.
- Built AI voice transcription pipelines and consumer Android apps using open-source ML models.
- Built supertravel.ai, an AI copilot travel planner generating personalized itineraries with real-time data and dynamic recommendations.
- Developed a Solana-based betting protocol in Rust, including trustless commit-reveal mechanics, exponential decay payout curves, and Bayesian expected-value analysis.
- Managed full project lifecycles: concept, architecture, implementation, deployment, and client delivery across multiple stacks.

Software Engineer *(SF Hardware Startup)* | Mar 2022 - Nov 2023

- Accelerated development velocity by improving internal tooling and automation pipelines, reducing repetitive tasks and enabling engineers to ship features faster.
- Streamlined testing & hardware workflows by designing a device pooling system with automated job submission and analytics, allowing teams to execute tests with one click and gain actionable debugging insights.
- Enhanced product visualization performance and responsiveness by 60% by optimizing a Python/Qt/Rust tool for speed, responsiveness, and trajectory mapping, directly supporting customer demos and internal decision-making.
- Ensured safety-critical compliance by integrating static analysis into CI/CD pipelines, meeting ASIL ISO 26262, AUTOSAR, and MISRA standards, reducing potential defect risk before release.

Software Engineer *(Proptech Startup)* | Jan 2022 - March 2022

- Streamlined backend workflows in a Spring-based monolithic codebase, improving system efficiency and maintainability.
- Monitored application performance with GCP Cloud Trace and Logging, identifying bottlenecks and improving reliability.
- Reduced database load by deduplicating entries with scheduled cron jobs, cutting unnecessary queries and supporting faster feature delivery.
- Migrated legacy endpoints to a task-queue system that processes chunked batches, lowering technical debt and enabling more scalable operations.

Personal Projects

Core Open-source contributions

- Rust embedded library - core serialization and code generation functionality for embedded hardware signals, expanding support for industrial messaging protocols and improving efficiency for users.
- Java monitoring library - cross-platform system information library by improving test coverage, refactoring low-level code for performance.

Android Security & Reverse Engineering

- In high school, demonstrated expertise analyzing mobile applications using Dalvik bytecode, smali, and decompiled JAR/APK workflows, identifying vulnerabilities and delivering actionable security insights to students and stakeholders.

Game Client & Networking Systems (LWJGL/OpenGL)

- Extended an existing game engine to customize rendering and UI, and analyzed client-server interactions by intercepting and injecting client-side packets to understand network protocols, game mechanics, and synchronization behavior.

Founder & Game Developer

- Founded supporting hundreds of concurrent players, managing full-stack development, deployment on dedicated Linux servers, and network optimization for fast-paced multiplayer gameplay. Improved performance and modularity of a monolithic codebase, optimized IO bound generations, integrated SQL/NoSQL databases. Feature design and implementation, collaborating with the community to enhance gameplay and introduce creative new systems.

Security Research - Distributed Platforms

- Conducted security research on core server by reverse engineering and analyzing obfuscated code. Used ASM and Java agents to instrument classes at load time, identifying authentication and trust-boundary weaknesses to inform hardening and mitigation strategies.

Full-Stack & Game Platform (Java, React, Spring Boot)

- Built to track dashboard integrating real-time in-game status via WebSockets, MongoDB, and Redis caching for key-value operations. Implemented event-driven pub/sub systems for live communication, integrated 2FA via third-party OAuth, and deployed on dedicated VPS with reverse proxy, ensuring reliable, scalable, and low-latency user experiences.

Education

- **(2021-2023)** Monash University *Science Advanced - Research (Honours)*, computational science and mathematics.