

GAVIN HOLMES

SOFTWARE ENGINEER

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SUMMARY

I am a software engineer with experience working with a wide range of technologies and languages to build reliable, scalable software. Throughout my work, I have prioritized efficient problem-solving, producing clean and maintainable code, and adapting to new tools and technologies. I enjoy tackling challenging technical problems, learning new systems, and contributing to projects across different areas of software development.

TECHNICAL SKILLS

Languages: Rust, Go, C, C++, TypeScript, Java, Luau, SQL

Tools & Technologies: Linux, Git, Cargo, CMake, Gradle, Node.js, PostgreSQL, Rojo, Wally, Tailwind CSS, Paper/Folia, Roblox

PROFESSIONAL EXPERIENCE

Gameplay Engineer | Locked In Studios

Jul 2026 - Present

- Build and maintain scalable gameplay systems using Luau with an emphasis on clean architecture, reusable code, maintainability, and polished player-facing behavior.
- Develop gameplay features and supporting systems designed to remain easy to extend as projects grow.

Computer Science Tutor | Freelance

Apr 2023 - Dec 2025

- Taught computer science and programming through one-on-one and small-group sessions for students ranging from children to college level.
- Adapted technical concepts to different experience levels, helping students strengthen programming fundamentals, problem-solving, and confidence working independently.

Freelance Software Engineer | Fiverr

Jan 2021 - Apr 2025

- Developed custom software solutions for clients across full-stack development, debugging, maintenance, and feature implementation.
- Managed multiple projects simultaneously, translating client requirements into working software while handling communication, planning, and delivery.

PROJECTS

fault | Network Fault Injection Tool

Rust, Linux, tc, NetEm, nftables, Network Namespaces, IFB, Clap, Tracing

GitHub: [gavrh/fault](https://github.com/gavrh/fault)

- Linux command-line tool for reproducing poor network conditions, including latency, jitter, packet loss, corruption, duplication, packet reordering, and bandwidth limits.
- Supports both destination-level fault injection and isolated process execution. Process mode creates network namespaces and virtual Ethernet pairs, while destination mode selectively shapes traffic to specific domains or IP addresses.
- Uses Linux traffic control and NetEm for packet manipulation, IFB devices for inbound traffic shaping, and nftables for forwarding and NAT, with automatic cleanup of networking resources when a session exits.

rojo-placepack | Multi-Place Roblox Project Generator

TypeScript, Node.js, Rojo, Luau, Chokidar, TSX

GitHub: [gavrh/rojo-placepack](https://github.com/gavrh/rojo-placepack)

- Tooling for building multi-place Roblox experiences from a shared package library, allowing reusable systems to be selectively included in individual places without duplicating source code.
- Generates complete Rojo project files while automatically mapping client and server modules, services, classes, UI, and remote objects into their appropriate Roblox runtime locations.
- Automatically generates client and server startup scripts and maintains a full-project sourcemap so Luau language tooling can provide autocomplete, type checking, and navigation across packages, even when individual places only include a subset of them.
- Includes file watching and configuration-driven regeneration so project structures stay synchronized as packages change.

librespot-c | C Interface for librespot

C, Rust, CMake, Cargo, Tokio, FFI

GitHub: [gavrh/librespot-c](https://github.com/gavrh/librespot-c)

- C interface built around the Rust-based librespot Spotify client library, making Spotify playback functionality accessible from C and C++ applications.
- Exposes APIs for authentication, credentials, sessions, discovery, mixers, playback, and player events while hiding the Rust implementation behind C-compatible headers.
- Designed the native boundary around a Rust dynamic library and C99 interface, using CMake and Cargo together to automate builds, linking, installation, and platform-specific shared library handling.

Noslate | Minecraft Server Anti-Cheat Plugin

Java 21, Paper, Folia, Purpur, Gradle, Kotlin DSL, Paperweight

GitHub: [gavrh/noslate](https://github.com/gavrh/noslate)

- Minecraft server plugin that filters underground chunk information to prevent hacked clients and freecam tools from exposing hidden bases, caves, ores, and other terrain below Y=0.
- Replaces hidden underground information with fake terrain data without permanently changing blocks in the world, then dynamically reveals legitimate terrain as players travel underground.
- Designed around asynchronous server execution and Folia's multi-threaded environment while maintaining compatibility with modern Paper and Purpur servers.

Scrapbook | Self-Hosted Family File Storage

Go, Echo, PostgreSQL, SQL, Tailwind CSS, JWT, TOTP, AES, Raspberry Pi

GitHub: [gavrh/scrapbook](https://github.com/gavrh/scrapbook)

- Self-hosted digital scrapbook for storing family photos, videos, and other files on hardware running inside the home.
- Structured the project as separate web application and file-serving services, with PostgreSQL-backed account and file metadata and a dedicated encrypted storage layer.
- Implemented AES-based file encryption with randomized initialization vectors for data stored on disk, alongside authentication infrastructure and a Tailwind CSS frontend.
- Designed the application to provide private, independently hosted storage rather than relying on a third-party cloud file provider.

gavrh.com | Personal Portfolio

Go, Echo, HTML Templates, CSS, GitHub API

GitHub: [gavrh/gavrh.com](https://github.com/gavrh/gavrh.com)

- Custom portfolio website and backend in Go using the Echo web framework rather than relying on a static-site generator or hosted portfolio platform.
- Server-side rendering, structured request handlers, static asset serving, and a concurrent in-memory store for site data.
- Integrated directly with the GitHub API to periodically refresh repository metadata such as descriptions, languages, stars, forks, and profile information displayed by the site.

EDUCATION

Associate of Science in Computer Science | Cuesta College

San Luis Obispo, CA | Aug 2023 - Jun 2025

ADDITIONAL INFORMATION

Languages: English, American Sign Language