

Jimmy Hough Jr.

Software Engineer: Swift, full-stack, and AI-assisted development

Lebanon, MO · jhoughjr@gmail.com · github.com/jhoughjr · jimmyhoughjr.net

Available for contract work, software or embedded. Fixed-price packages: resume.jimmyhoughjr.net/services · Case studies: resume.jimmyhoughjr.net/work

SUMMARY

Software engineer with 15 years of shipping software across Apple platforms, servers, desktop and embedded hardware. Now that AI agents write much of the code, the language matters less than the engineering judgment behind it: clear contracts, deep modules, tests that pin behavior, and review that catches what an agent misses. Since 2024 I have built production point-of-sale software for a retail and service company, in Swift and TypeScript. I also run a self-hosted platform of more than 20 apps that I built and operate with teams of Claude Code agents. I design the workflows these agents use: scoped work packets, per-commit gates, review lanes and shared skills. With them, one engineer delivers the output of a small team while every change stays reviewable.

SKILLS

- **Engineering practice:** system and API design, contract-first development (OpenAPI, generated SDKs), modular architecture, test-driven development, code review, CI/CD, incident diagnosis, technical writing
- **AI-assisted engineering:** Claude Code (skills, hooks, MCP servers, headless and parallel agents), agent orchestration, spec-driven delivery with agents, verification and review of agent output
- **Languages:** Swift, TypeScript and JavaScript, Python, SQL, C++ (embedded). I pick up new stacks quickly.
- **Platforms and tools:** Vapor, Hummingbird, PostgreSQL, Node, React, Electron, SwiftUI and UIKit, Docker, Dokku, nginx, Cloudflare, OpenTofu, GitHub Actions and Forgejo, ESP32 and Arduino

EXPERIENCE

Austin MacWorks — Contract Software Engineer

December 2024 — present · remote

MacWorks POS: a service-management and point-of-sale platform on a Swift (Vapor) backend.

- Wrote most of **Phoenix**, the first POS client (about 650 of 930 commits), then led the move to **Phoenix-Electron**, the desktop client (Electron, React 19, TypeScript, a typed SDK generated from the server's OpenAPI contract). Features: purchase orders, quotes, checkout, serial capture, and an in-app bug report pane with screenshots.
- Built **swift-pdf-builder**, a pure-Swift PDF library for server-side invoices and receipts. It had 160 tests and green Linux CI in its first day, and the document render endpoint was live in the lab the next day.
- Added CI to the MWServer backend: multi-architecture release builds, test reports and coverage, test caching, a fail-fast gate, and release timings. Also added object storage and PDF rendering.
- Work daily in the team's shared Claude Code "office": agent desks, work packets, commit gates and review lanes, with handoffs through GitHub issues.

Independent — AI-built tooling and self-hosted platform

2026 — present

I designed and directed these systems. Claude Code agents wrote most of the code under my specifications, rulings and review.

- **rookery:** a control plane for teams of headless Claude Code agents (Swift, Hummingbird). It opens agent seats by role, streams each tool call to a live board, keeps skill and role registries, and exposes an MCP server. Benchmarked 12 concurrent agents on one subscription.
- **hatchery:** a Swift CLI that declares, deploys and monitors the whole estate (24 apps, 13 databases in 3 clusters, 26 scheduled jobs across 3 hosts), for self-hosted Dokku or cloud through OpenTofu.
- **roost:** an app platform on an Orange Pi 5 Plus behind CGNAT (Dokku, nginx, Cloudflare Tunnel). A new app gets a live HTTPS URL in about 40 seconds. Includes fleet telemetry (temperature, power, host stats), reconcile jobs, runner watchdogs, and nightly restic backups with a tested restore runbook.
- **vault:** a single sign-on service for the domain (Apple, Google, GitHub), per-app authorization, secrets storage, and an S3-compatible object API (SigV4, multipart upload; 194 tests).

- **CI independence:** self-hosted Forgejo with Actions runners on macOS and Linux (ARM and amd64 cross-builds). Split DNS cut LAN latency from 182 ms to 55 ms.
- **statusgen:** JSON-driven status boards with a validated widget schema, fed by live CI events.

House apps I host (25 apps on one Orange Pi, all under jimmyhoughjr.net): Eco-Clean, a bin-cleaning business site · watts, an electricity cost calculator · tokipwnage, an app site · head2head, implementation comparisons · pulse, fleet telemetry · ci, a live CI feed · docs · Forgejo · vault · the agent control plane and decision log (private) · the MacWorks staging stacks · and this resume.

Earlier roles

- **Kernel Edge** — Software Developer · Sep 2023 – Nov 2023
- **First Principle LLC** — Developer · Jan 2018 – 2021 — built Ghostnote, contextual notes for macOS that follow the foreground app through scripting.
- **KNOWiNK** — iOS Developer · Dec 2015 – Sep 2017 — PollPad, the digital poll book used in most US counties. Bluetooth peripherals, external accessories and UI.
- **Asynchrony Solutions** — iOS Developer · Jan 2013 – May 2014 — IonicMobile enterprise suite: directory, polling, Kanban, file sharing, town-hall meetings, and LifeRange, a location-safety app for early-stage Alzheimer's patients.
- **Zanther Inc.** — Contract iOS Developer · Apr 2011 – Jul 2011 — stabilized Taposé, an iPad take on the Microsoft Courier concept.

SELECTED PROJECTS

- **lighthouse:** an offline-first Bible study app for Apple platforms. A build pipeline compiles 5 public-domain editions (163k verses) into SQLite.
- **videmus:** measures viewing distance with TrueDepth to show text at true angular size, and simulates vision loss.
- **Embedded work:** engine sensor firmware on Arduino, and **reflex**, a tiered MQTT bridge that carries ESP32 readings to local rules and then to a cloud model.
- **WebSocketKit PMCE:** implemented RFC 7692 compressed frames for Vapor's websocket-kit.
- **TrigPad and OhmPad:** my first App Store apps, an interactive unit circle and an electronics calculator.

EDUCATION

Missouri Technical School

- B.S. Electronics Engineering, 2011
- B.S. Engineering Management, 2011
- A.A.S. Electronics Engineering, 2010
- Computer Technology Certificate, 2011 · Electronic Service Technician, 2008

Ozarks Technical College — General Education, 2006

Missouri School for the Blind — High School Diploma, 1999