

Robert C. Drake

FORWARD DEPLOYED ENGINEER

Michigan (US Eastern) · Open to relocation and heavy travel

rob@robdrake.dev · (702) 610-5739

robdrake.dev · github.com/bobertdrake · linkedin.com/in/Robert-Drake-321342274

SUMMARY

Engineer who takes systems from empty repository to paying customers alone — iOS, backend, web, and the hardware underneath when the problem calls for it. Shipped a native iOS app and its Swift Vapor backend to the App Store, deployed a role-based member platform into a live organization, and built an LLM agent whose evaluation report is published in public, failures included. Five years running field operations before that, which is why the work starts by watching how a process actually happens rather than reading the document that claims to describe it.

EXPERIENCE

Founder & Chief Technology Officer — FalconryLab

2024 – Present

Sole architect and engineer of a multi-platform product: native iOS app, REST backend, content platform, Android port, and a hardware prototype.

- ▶ **Shipped FalconryLab v1.2 to the App Store** — SwiftUI + SwiftData iOS client with an offline-first delta-sync layer, backed by a Swift Vapor REST API on Fly.io (PostgreSQL, Redis, JWT). ~107,000 lines across 565 Swift files with 524 backend tests. Live and monetized across six subscription tiers.
- ▶ Designed the **predictive weight engine** the product is built on — a rolling 14-day per-bird burn-rate calculation with an explicit, surfaced fallback when the data window is too thin to trust — producing gram-precise feeding recommendations and forecasted weight at a chosen future hour.
- ▶ Built the **content and acquisition platform** in Next.js (App Router, next-intl, MDX): 50 state-by-state regulatory guides, 100+ reviewed articles, species and equipment libraries. The most comprehensive verified falconry reference on the web, drawing ~3,400 monthly visitors with roughly half from organic search, funneled into App Store installs via per-placement campaign tokens.
- ▶ Ran a **six-pass pre-launch audit** across security, sync integrity, domain math, onboarding, monetization, and growth — every finding required to cite file and line. Closed 8 criticals before the first paying customer, including a StoreKit receipt-forgery path and an unverified Apple certificate chain that would each have given away paid tiers.
- ▶ **De-risked hardware before spending money on it:** a Bluetooth perch scale on ESP32-S3 + TI ADS1232 with parametric OpenSCAD CAD and PlatformIO firmware, plus a published noise budget establishing 0.013 g resolution at 80 SPS — measured numbers for a manufacturer instead of a guess.
- ▶ Shipped the **Android port**; owned App Store submission end to end — privacy manifests, review correspondence, and a 2.1(a) rejection driven through to approval.

Swift · SwiftUI · SwiftData · Vapor · PostgreSQL · Redis · JWT · StoreKit 2 · Fly.io · Next.js · TypeScript · ESP32 · OpenSCAD

Independent Software Engineer (Forward Deployed) — Independent Consultant

2023 – Present

Embedded with client organizations to map how the work is actually done, then build and hand off the system that supports it.

- ▶ **dbloc.org** — deployed an invite-only member platform into a ~70-member organization and its board. Next.js 16 App Router, Neon PostgreSQL + Drizzle, Better Auth issuing bearer tokens for an iOS companion app, Stripe, Resend / React Email, Vercel Blob. Board, committee, caretaker, and member roles authorized server-side rather than hidden in the UI.
- ▶ Shipped it as a **phased engagement reviewed with the client at every gate** — news, maintenance scheduling, caretaker time clock, committees and donations, photo albums, direct messaging, marketplace — against a written PRD whose requirement IDs are cited in the source itself, so code and spec cannot drift apart silently.

- Built the **regression discipline the client had no way to buy**: Playwright scripts that drive the running application as each real persona, assert against the database, and clean up after themselves — in CI beside format, lint, typecheck, tests, and build, with migrations reaching production only on a green `main`.
- Delivered and handed off **production systems for five regional businesses** — tree service, lawn care, falconry outfitter, pest-control hardware, and a fishing tournament with live standings — full lifecycle from requirements through deployment and owner handoff.

TypeScript · Next.js · PostgreSQL · Drizzle · Better Auth · Stripe · Playwright · Vercel · GitHub Actions

Applied AI & Evaluation — [robdrake.dev](#)

2025 – Present

The site argues that deployment is the hard part of AI work, so it deploys something and publishes the score.

- Built an **LLM triage agent running in shadow mode on live inbound traffic** — it classifies intent, scores fit against real criteria, and drafts a reply. It has never had send permission. Six decisions in the pipeline; exactly two are model judgment, the other four are deterministic code or a human.
- **Published the eval report, including the failures**. A 14-case golden dataset scored on six independent dimensions: 12 of 14 pass, p50 latency 10.1 s, \$0.015 per case. The two failures are on the public page with their cause named — short, low-signal messages land under the 0.6 confidence gate and route to a human queue instead of acting.
- **Closed the loop**. Corrections made in the admin review queue become regression cases and prompt lessons, so a failure that has been fixed once cannot quietly ship again.
- Designed for **partial failure**: without the model gateway an inquiry is still stored and recorded as `provider_error` — visible and re-triageable — rather than silently indistinguishable from an unprocessed row.

LLM agent design · eval harnesses & golden datasets · shadow-mode rollout · structured output · Vercel AI Gateway · Neon · Drizzle

Operations & Field Systems — [Las Vegas, NV](#)

2018 – 2025

- **Legacy Transportation Services / DME Expo Logistics (2024–2025)** — Logistics Coordinator. Trade show freight across transportation, storage, and on-site execution; built the shipment tracking and reporting tooling the team ran on day to day.
- **Smartstage Ltd (2020–2024)** — Warehouse & Logistics Coordinator, and Project Manager / Site Foreman on large-scale installations. International freight and customs compliance; operated Manhattan Active WMS and Yardview; built the reporting automation that replaced manual shipment tracking, and negotiated carrier and vendor contracts.
- **EnrichedLeads (2024–2025)** — Founder. Built a B2B data enrichment pipeline and an AI qualification agent for inbound leads. Shut down when the upstream data provider the enrichment engine depended on was served a cease-and-desist — a lesson in auditing the dependency you do not control before you build a product on top of it.
- **Nevada Department of Wildlife (2018–2020)** — Raptor Rehabilitator. Triage, wound management, fracture stabilization, radiography, and conditioning for release across eagles, hawks, falcons, and owls; coordinated with veterinarians, wildlife officials, and volunteers. The domain expertise FalconryLab is built on.

TECHNICAL

LANGUAGES Swift, TypeScript, JavaScript, Python, SQL, C++ (embedded)

MOBILE SwiftUI, SwiftData, offline-first sync, StoreKit 2, App Intents / Siri, App Store release & review

BACKEND Vapor, Next.js App Router, Node, PostgreSQL, Neon, Drizzle, Redis, REST, JWT, Better Auth

AI LLM agent design, eval harnesses & golden datasets, shadow-mode deployment, structured output, Vercel AI Gateway

INFRASTRUCTURE Fly.io, Vercel, Docker, GitHub Actions CI, Stripe, Resend

TESTING XCTest, Vitest, Playwright, persona-driven end-to-end verification

HARDWARE ESP32 / PlatformIO, load-cell instrumentation, OpenSCAD, 3D printing

EDUCATION

Asher College — Computer Science coursework, 2016

College of Southern Nevada — Avian Biology coursework, 2019