

Holden G. Richard

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EDUCATION

University of Vermont

B.S. Computer Science; Accelerated Master's Pathway to M.S. Complex Systems and Data Science

Expected May 2027 (B.S.) / May 2028 (M.S.)

Burlington, VT

GPA: CS Major 3.40

Study Abroad: Auckland University of Technology, New Zealand (Fall 2026)

Independent Study (A): AI-Assisted Software Engineering - multi-agent development workflows (Kabu as deliverable)

TECHNICAL SKILLS

Languages: Swift, Python, TypeScript, JavaScript, C++, SQL

Frameworks & Libraries: SwiftUI, FastAPI, Flask, React, Next.js, Vite, Tailwind, Node.js, Playwright

Databases & Storage: PostgreSQL, SQLite, Cloud Firestore, Redis

Infrastructure & DevOps: Docker, GitHub Actions, Vercel, Firebase Cloud Functions, VPS, Git

Systems & Architecture: Event sourcing, outbox pattern, idempotent message dispatch, webhook lifecycle handling, background job queues (Redis/RQ), REST APIs, multi-tenant SaaS

Security & Auth: OAuth/JWT, WebAuthn, Kinde Auth, Firebase App Check with App Attest, Firestore security rules, secret scanning (gitLeaks, trufflehog)

EXPERIENCE

TISL LLC - Founder and Developer

2026-Present

Kabu, iOS financial-literacy app in App Store review - Swift, SwiftUI, Firebase, StoreKit 2, Cloud Functions

learnkabu.com

- Designed and built Kabu, a gamified stock-market education app, as sole founder and engineer and submitted it to the iOS App Store in August 2026, going from zero prior Swift experience to a release candidate in the App Store review process in roughly eight months while enrolled full time and self-funded.
- Engineered the subscription payments stack end to end: StoreKit 2 client, server-side receipt validation via Apple's App Store Server API with JWS verification, and an App Store Server Notifications V2 webhook; designed a per-request dual-environment fallback after determining no single pinned environment can serve both App Review and live customers, verified in production at ~800ms validation with zero errors across 9 notifications in the week of submission.
- Built the entire product surface solo: 25 quiz-gated lessons across 5 units and 85 questions, 4 historical market simulations, and a 100-ticker paper-trading sandbox that benchmarks user returns against the S&P 500 including on losses; validated by a 419-test automated suite and 30+ TestFlight testers.

Jersey Mike's

Jun 2023-Present

Shift Lead / Customer Service

- Lead shift operations and train junior staff alongside a full CS courseload; previously Shift Lead at The Bagel Shop (2019-2021) and Crew Member at Green Mountain Bagels (2022).

RESEARCH

Agent-Authored App Governance Study - Sole Researcher

Jul 2026-Present

Independent research (CRWT 700), Auckland University of Technology - Python, GitHub Actions, Git

- Built the research instrumentation: a defect ledger of 428 rows (219 defects, 209 near-misses) across 18 columns, 121 schema-versioned session logs on an append-only index, and an attestation register tracking six formal platform and legal promises against observed behavior.

PROJECTS

Self-Taught Operator - Self-Improving Computer-Use Agent

Jun 2026

Python, Gemini computer-use, Playwright, MongoDB Atlas, Voyage AI

AI Engineer World's Fair Hackathon

- Built a self-improving agent solo in ~24 hours that learns to operate a browser-based logic-circuit game through Gemini computer-use and compiles its own parameterized Python skills to disk at runtime from verified solve trajectories.

LoanLens - Student Loan Analytics Platform

Feb 2026

FastAPI, SQLite, Jinja, Kinde Auth

1st Place Fintech Category | 2nd Overall | Second Annual UVM SWICS Hackathon

- Led backend development for a student-loan analytics platform built in under 48 hours, winning 1st in Fintech and 2nd Overall.
- Implemented Kinde OAuth with two-factor authentication and Google/GitHub social login; judges cited the authentication implementation as a top technical decision.