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Software engineer and tech lead with a background in math and statistics. For the last few years I've been building LLM-powered tools for financial-crimes investigations at Robinhood, and leading the cross-team projects that get them into production. Pulled toward the general solution over the one-off fix, and toward leaving the people around me better-equipped than I found them.

Experience

Robinhood Markets Software Engineer & Tech Lead

March 2022 to Present

Financial Crimes Engineering: LLM tooling for investigations and the cross-team work that ships it.

- **Financial Crimes LLM**

2024 to 2025

AI · LLM pipelines · model evaluation · greenfield Python

Greenfield owner of the team's LLM tooling for FinCrimes investigations, and the first sustained Python shipped on the team. Built a **negative-news pipeline** that searches the web, scrapes through a proxy egress, summarises with an LLM, and scores hits per attribute (name, occupation, location). Built a **fraud-typology layer** on the same foundation with classifier and explainer agents per typology, and a **model-evaluation framework** measuring LLM agreement with the existing rule engine.

Impact. ~1,000 investigator-hours saved per month across ~4,000 cases; fraud-typology auto-routes ~15% of fraud cases.

- **AI Developer Tooling**

2026

Autonomous agents · developer tooling · standards authorship

One of the first on the team to push agents into everyday use, and the one who built the fleet and wrote the playbook. Authored the team's **Go coding standards** as a rule-ID catalogue, stood up the wiki the agents reason from, and built a fleet of **autonomous coding agents**: a Go implementation agent following those standards, a design-doc drafter, and a PR reviewer that cites rule IDs.

Impact. ~25% lift in team velocity; personal multiple closer to 4x. A 30-minute agent-drafted proposal was adopted by a partner team as their cross-codebase template.

- **Replacing Actimize: In-House Regulatory Filing**

2025 to 2026

Cross-team leadership · regulated systems · multi-region

Architect and principal engineer on the in-house filing stack. Built the pipeline for **SAR filing to FinCEN** (XML against the federal schema, every permutation tested) and extended it to **STR filing to FINTRAC** via a per-region module. A secure file-transfer client drives a form state machine on acknowledgments; a 90-day parallel-filing window through Actimize surfaced regressions before cutover.

Impact. Critical path owned in-house end to end; Actimize out of the regulatory-filing loop.

- **Self-Serve Detection Platform**

2024

Platform design · proto-first schema · distributed compute

Designed the platform and led the team that built it end to end. A **proto-first feature schema** keyed by name, cadence, entity. **Orchestration split from compute**: scheduler orchestrates, distributed engine calculates, watermarks hand off to rule evaluation. Batch IDs traced through the engine; three-phase rollout into a self-serve UI for business users.

Impact. Detection latency dropped from over 24 hours to under 30 minutes; a new rule became a config change instead of an engineering project.

- **Same-Day EU Crypto + UK Brokerage Launch**

2023

Cross-team · crypto + sanctions screening · internationalisation

Primary engineer driving the simultaneous go-live of two products in two regions. Owned the internationalisation of **two screening systems** – crypto for the EU launch, sanctions for the UK – both driven by dynamic runtime configuration so partners could tune jurisdiction rules without a deploy. Modelled **locality as a typed field** across the boundaries; migrated the identity system off direct vendor calls.

Impact. Both regions live the same day, no downtime, no incidents; ~150 RPS peak load, load-tested past 1,000 RPS.

- **Alert-Management Platform**

2023

Backbone service · gRPC · foundational patterns

Lead on the build-out with a team of L4 engineers. Bootstrapped the **backbone service end to end**: gRPC endpoints with streaming consumers, relational store, runtime config, full observability. Single onboarding contract for upstream

systems; set the service patterns every later FinCrimes service inherited.

Impact. ~30% drop in investigator time per case for alerts on the platform; the substrate for the rest of FinCrimes.

- **Crypto Screening Resilience.** Pitched a second crypto-analysis vendor on resilience grounds (formal risk assessment had flagged the single-vendor reliance as top-tier), designed a unified detection interface, and led the ~10,000-line refactor across partner teams. Closed the risk, added a failover, and unlocked crypto in the EU.
- **Distributed Tracing & Observability.** Drove the rollout of distributed tracing and structured monitoring across the team's services, with standard sampling tiers and layouts so new services adopt them with no design discussion.
- **Actimize Data Migration.** Authored the design and built the importer that migrated millions of historical alerts and cases off Actimize into Robinhood's case-management model (mapper-per-category framework, object-storage staging, scheduled worker).

Google Software Engineer & Tech Lead

January 2020 to March 2022

Tech lead for inventory and warehouse control systems in the Technical Infrastructure organisation.

- Led four engineers and fifteen support engineers running the inventory system through Google's company-wide **ERP migration from Oracle to SAP**, coordinating changes across many integration points at once.

Bravo Reporting Systems Lead Software Engineer

January 2015 to October 2025

A startup that ran a SaaS app for activity-report generation, through to its closure in October 2025.

- Mentored new hires, getting them up to speed on feature work and refactors and giving them a real path into a software-engineering career.
- Cut page load times by **90%** by reworking the database architecture and query logic.
- Built and maintained a multi-stage **CI/CD pipeline** from scratch for fast, safe releases.

SPS Commerce Senior Software Engineer

April 2016 to August 2019

A B2B SaaS company building supply-chain integration frameworks across retail, eCommerce, and fulfilment systems.

- Designed and built **containerised web apps** for document translation.
- Built integrations into ERP and storefront systems including Salesforce, NetSuite, and Magento.
- Used **AWS API Gateway and Lambda** to migrate a monolith to a microservice architecture.

Education

University of Minnesota Mathematics major, Computer Science minor

August 2010 to May 2014

Minneapolis, MN.

University of Oxford Semester abroad

Spring 2014

Oxford, UK. Thesis: mathematically modelling traffic flow. Also studied English scientific and military history.

Society of Actuaries Examinations

Competencies

AI & LLMs LLM pipelines · prompt engineering · agentic workflows · model evaluation · retrieval & summarisation · AI developer tooling

Languages Go · Python · TypeScript · Java · PHP · SQL/PostgreSQL

Infrastructure AWS · Kubernetes · Docker · serverless · gRPC · Kafka · Airflow · Spark · CI/CD · Protocol Buffers

Leadership & craft Technical leadership · cross-team delivery · architecture & design docs · code review & standards · mentorship · observability & tracing