

DAVID ALVARADO

Westerville, OH | 614-560-1076 | HSC.Coach@gmail.com | [linkedin.com/in/david-r-alvarado17](https://www.linkedin.com/in/david-r-alvarado17) | github.com/SailorDave17

Engineer who builds the control layer that makes autonomous delivery safe to run in production — write authority enforced at the tool call, adversarial review gates, and schema changes that verify themselves against the live database before they apply. Five years at JPMorgan Chase building account-opening platforms from scratch and migrating legacy banking systems under zero tolerance for data loss.

TECHNICAL SKILLS

Agentic Systems & Governance: Multi-agent orchestration, policy-as-code governance, agent authority laddering, pre-tool-call enforcement hooks, adversarial review pipelines, MCP (Model Context Protocol) servers, automated quality, security & compliance gates

Languages & Frameworks: Java, Spring Boot, Kotlin, Python, JavaScript, SQL, REST APIs, Microservices

Cloud & Infrastructure: AWS, Terraform (Infrastructure as Code), Apache Kafka, Supabase/PostgreSQL, CI/CD

Practices: Test-Driven Development, Event-Driven Architecture, Legacy Migration & Modernization, Regulated-Environment Delivery, Agile/Scrum

EXPERIENCE

JPMorgan Chase & Co. — Columbus, OH

Software Engineer II — Consumer & Community Banking, Operations Technology

Sept 2021 – Present

- **Designed and ran a governed multi-agent AI development pipeline** — MCP servers, agent-to-agent invocation, and a written authority model bounding what automation may commit unreviewed, tightened for a regulated environment and operating inside the firm's mandatory peer review, CI, and change-management controls; sustained across a six-week production rewrite for Legal, Regulatory & Control Operations and since adopted by peers — the same authority-laddering approach later hardened independently in Cairn with hook-level enforcement (see Projects).
- **Built an account-opening platform from the ground up as one of six engineers** — owned the data model and service boundaries for a system handling account types too complex for the standard onboarding flow.
- **Migrated a legacy key-entry system to the firm's new banking architecture as one of three engineers** — work integral to Chase's 2023 acquisition of First Republic Bank; owned the reconciliation and cutover strategy for cross-institution account data with zero tolerance for data loss.

Early Careers Workstream Lead (concurrent with engineering role)

Sept 2022 – Present

- **Lead a 40+ person cross-functional workstream** running the Columbus site's early-careers program across all lines of business — a firm-recognized initiative improving junior-talent recruiting and retention; own planning, delegation, and stakeholder communication end to end.

PROJECTS

Cairn — Governance Layer for Multi-Agent Delivery — Python, Claude Code, MCP *private repository, access on request*

- **Defined a write-authority ladder for autonomous agents** — automation may branch, commit, push, and open a draft pull request; it may not merge, force-push, alter issue state, or delete anything. The ceiling is a draft PR, so a wrong action costs one review rather than a recovery.
- **Moved the ladder from policy to enforcement** — a pre-tool-call hook denies the irreversible actions (PR merge, force-push, repo/issue deletion) outright and prompts before risky ones (branch deletion, issue-body edits); a second hook restricts every agent to the repos in scope. Proven by a refused command, not a passing test.
- **Caught defects that human review had missed** — adversarial review across independent lenses surfaced a silently reverted configuration block, confirmed by five lenses reading separately, and a merged pull request that had left its tracking issue open. Review is a control that scales linearly with volume, and agents make volume cheap.

Taskr — Capacity-Fair Household Allocation (PWA) — JavaScript, Supabase/PostgreSQL, Vitest, Vercel [SailorDave17/Taskr](https://github.com/SailorDave17/Taskr)

- **Built the verification layer for a hand-applied database deployment** — a live-schema probe covering every table, column, RPC, and edge function the client depends on, carrying a deliberate negative control so a check that reports success everywhere cannot hide an absence; migrations apply only after the database confirms the byte count and md5 of what it received match the file on disk, because a file compared against itself proves nothing.
- **Shipped a capacity-proportional allocator** judged against a 13-shape scenario corpus that states plainly when a fair split is arithmetically unreachable rather than approximating one; row-level security and column-level grants enforced server-side and asserted by tests that bypass the client, on the principle that a client-side guard is not a guard.
- **Decoupled schema changes from merges after an outage** — applying a migration and promoting the client became two deliberate acts in a stated order, so a branch whose client depends on an unapplied migration can no longer reach production the moment it lands; a build-time guard refuses any secret-shaped key reaching the client bundle, and a test asserts the guard is asked about every variable the build reads rather than the ones someone remembered.

Race Timer — Sailing Start-Sequence Timer — Kotlin, Jetpack Compose, Android [SailorDave17/race-timer](https://github.com/SailorDave17/race-timer)

- **Built a hard-real-time countdown engine** — took cue accuracy from ± 200 ms to ± 13 ms on hardware by rendering cues to PCM and scheduling against a monotonic anchor instead of polling; traced a first-cue latency regression to service-startup ordering and closed it with a measured before/after ($+172$ ms $\rightarrow$ -7 ms). UI-independent Kotlin core unit-tested on the JVM; GitHub Actions gates every pull request.

EARLIER EXPERIENCE

The Wasserstrom Company — Key Account Manager, Columbus, OH

2016 – 2020

- **Managed \$100M+ in annual business** for Marriott International and Hyatt Hotels, partnering with C-level stakeholders on budgets and multi-year growth planning.

EDUCATION & CERTIFICATIONS

- **We Can Code IT** — Software Development Certificate | **The Ohio State University** — Atmospheric Science & Hospitality Mgmt
- **US Sailing Level 3 Certified Coach** — national-championship coaching credential; two-time national champion.