

Benjamin Cox

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Professional summary

Software engineer and field operations project manager working at the seam between physical operations and the data systems that run them. Shipped production iOS/web software on AWS and PostgreSQL with custom RAG and state-graph retrieval llm based agent; currently building a provenance-backed memory service for autonomous agents (live public API + MCP server) and a satellite fleet-operations simulator with delayed-command and human-approval workflows. In parallel, manage development and commercial landscaping projects: crews, drawings, materials logistics, machinery, bids, and contracts. Fifteen years of prior team leadership and P&L management. Targeting roles in robotics data pipelines, industrial IoT, fleet health monitoring, and autonomous construction, where field judgment and software delivery both matter.

Skills:

Python · TypeScript · Swift · PostgreSQL · AWS (App Runner, EC2, RDS/PostgreSQL, IAM, SES, S3, CloudWatch) · REST/API design · iOS & web development · RAG · vector search · OCR · state-graph / agent workflows · MCP · telemetry visualization · operational data pipelines · Orekit · Basilisk · Three.js · simulation · Ed25519 signing / provenance · Mixpanel, GA4, Search Console · project management · earthwork & grading · architectural drawings · bid/contract/expense review · materials logistics · machinery operation · team leadership · hiring & training · P&L management · technical writing · data modeling · excel / sheets

Work experience

Founder and Software Engineer

HAIDAA | Bainbridge Island, WA

July 2026 to Present

- Designed and shipped a shared, provenance-backed memory graph for autonomous agents: signed, attributed assertions (Ed25519), preserved disagreement via CONTRADICTS/SUPERSEDES relations, inert retrieved content, and offline receipt verification.
- Operate a live V0.2 pilot at haidaa.com with a public API and hosted MCP server (read today, read/write in progress); protocol, schemas, verifier, and RFCs published under MIT with Python and TypeScript clients.
- Built to let agents accumulate reusable skills and procedures through public experimentation and multi-agent composition, so what one agent learns becomes verifiable, attributable procedure for others.
- Defined contribution-review boundaries and trust model; roadmap includes automated trust promotion, scientific attestations, and federation.

Independent project - OrbitFleet (satellite fleet-operations simulator)

Population Mars | Bainbridge Island, WA

June 2026 to Present

- Built a fleet-operations simulator with synthetic telemetry generation, replay, anomaly scenarios, bounded action candidates, delayed command execution (comms latency), semi autonomous responses with human approval gates.
- Public Mars scenario at orbitfleet.populationmars.com/mars; dated engineering notes on GitHub <https://github.com/ZuchGuillotine/orbitfleet.git>.
- Tooling: Orekit, Basilisk, Three.js, Python, TypeScript.

Founder & Software Engineer

Microtracker | Bainbridge Island, WA

April 2025 to Present

- Built and shipped a native iOS and web app on AWS App Runner/EC2 and PostgreSQL for tracking supplements, peptides, and biomarkers.
- Built a custom retrieval-augmented generation pipeline, then refactored it to a state-graph architecture for personalized

- context retrieval. Integrated apple health, OCR/vision pipeline, vector retrieval, and agent based llm response harness.
- Owned production AWS infrastructure end to end: App Runner and EC2 compute, RDS Postgres, IAM roles and least privilege policies, SES transactional email, S3, and CloudWatch monitoring
- Owned handling of sensitive health data end to end, including consent design under Washington's My Health My Data Act.
- Built human-in-the-loop agent harnesses for marketing content; ran Apple Search Ads, Google Ads, and analytics (Mixpanel, GA4, Search Console, Bing Webmaster).

Project Manager

Forest Pryde | Poulsbo, WA

April 2023 to Present

- Organized materials logistics to ensure efficiency
- Read and implemented plans from architectural drawings
- Managed property development and commercial landscaping projects end to end: crews of 4-5, used architectural and civil drawings, materials logistics, and machinery scheduling on projects up to \$500,000.
- Review bids, contracts, and expenses across the project lifecycle to protect margin.
- Work with civil engineers' site and DEM data on grading and earthwork; operate heavy equipment as needed.
- Orchestrated projects with general contractors, owners, and sub contractors to ensure on budget on time project delivery.

Project Manager

White Willow LLC. | Suquamish, WA

January 2021 to April 2023

- Doubled the client base in one year by tightening scheduling of materials, equipment, staff, and subcontractors; improved gross and net revenue.
- Designed and contracted large residential projects directly with clients.
- Managed staffing: hiring, training, evaluations, scheduling. Built invoicing, expense, and client-retention spreadsheets.

Chef De Cuisine (Kitchen Manager)

Restaurant Marche | Bainbridge Island, WA

January 2012 to December 2022

- Performed time sensitive inventory management and procurement to optimize quality and profitability.
- Utilized sales software tools and designed analytics to improve net margins.
- Led a diverse high performing team of up to 12 with growth oriented training, scheduling, and management techniques. Prepared to order a menu of classic French inspired dishes using local ingredients.

Sales Development Representative

Iggy's Alive and Cultured

January 2020 to December 2021

- Opened new regional B2B accounts through customer segmentation and relationship development; managed pipeline in HubSpot.

Sous Chef/Kitchen Manager

Cafe Nola | Bainbridge Island, WA

March 2007 to June 2014

- Managed culinary staff of 14+, inventory, ordering, and restaurant profitability.

Education

Applied Science (Associate of Applied Science)

Olympic College

2006 to 2008

Skills

Field operations experience Technical Writing PostgreSQL AWS CLI Leadership Python Expense
Management AI data systems AWS IAM AWS Secrets Manager Analytics Prompting/LLMs agentic
engineering

Publications

Population Mars

<https://populationmars.com/>

September 2025

Founder/editor, populationmars.com, an industry intelligence publication on Mars colonization and space technology.