

KEVIN HILL

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PROFESSIONAL SUMMARY

Results-driven engineer with a career-long record of operations, data engineering, and full-stack development success. Builder of autonomous agent platforms and large-scale data pipelines. Expertise spans web development, machine learning, autonomous agent orchestration, Python, data analysis, team leadership, operations optimization, functional testing, cross-functional collaboration, and project management.

PROFESSIONAL EXPERIENCE

OmoiOS ([omoios.dev](https://kevin.omoios.dev)) — Founder & Lead Engineer

Jan 2025 – Present

- Created an open-source, spec-driven AI development platform that orchestrates parallel **background agent swarms** to turn feature specs into tested pull requests autonomously.
- Architected a full-stack system: FastAPI backend (100+ services, 75+ SQLAlchemy models), Next.js 15 frontend (130+ React components), PostgreSQL with pgvector, Redis pub/sub, and Daytona sandboxed execution.
- Designed **DAG-based task execution with dependency-aware parallel scheduling**, active agent supervision (IntelligentGuardian), and **self-healing pipelines** that diagnose and retry failures automatically.
- Built a real-time monitoring system with WebSocket-driven dashboards, Kanban boards, and live agent terminal views for observing long-running background agents.
- Launched SaaS product with tiered pricing, BYOK model support (Anthropic, OpenAI), and GitHub integration for branch management and PR workflows.
- Open-sourced under Apache 2.0; self-hostable; listed on OpenAlternative.

Automation Workz Institute, Detroit, MI — CTO (*concurrent advisory*)

Jun 2021 – Present

- Owns the technical roadmap for a Detroit-based cybersecurity and software-engineering apprenticeship program.
- Built and maintains data pipelines that feed apprentice progress, assessment results, and employer-outcome metrics into a single reporting layer.
- Stood up curriculum infrastructure on AWS (Lambda, S3, RDS), enabling remote cohorts to run lab environments on demand.
- Mentors apprentices on production software-engineering practices: code review, CI/CD, testing discipline, incident response.
- Partners with the program lead on grant reporting and workforce-development KPIs.

Husmann Corporation, Bridgeton, MO — Python Backend Developer

Nov 2022 – Jan 2025

- Ran real-time data pipelines with Python, MongoDB, Neo4j, and MySQL handling up to **14 TB of requests per month**.
- Created an authorization system using **OpenFGA ReBAC** (relationship-based authorization) to handle multi-org, multi-site interactions.
- Partnered with the UX team to deploy new services and deliver events and reports APIs to a new beta UX.
- Owned bug triage and resolution across the backend services.

Ally Bank, Charlotte, NC — Software Engineer

Mar 2021 – Jun 2021

- Used Python and **Rasa** to contribute to the company's conversational AI chatbot.
- Engineered a property-based test system to reduce risk in the chatbot pipeline.
- Deployed services to AWS using Lambda; parallelized Chatbot API critical paths with Python threading and multiprocessing.
- Worked directly with the UX team to create interactive chatbot experiences.

Yonomi Inc, Boulder, CO — Software Engineer

Sep 2020 – Mar 2021

- Used TypeScript to build a distributed IoT system with full end-to-end interaction.
- Deployed services to AWS via the Lambda serverless platform; improved testing and CI/CD to mitigate release risk.
- Created an internal transpiler that dynamically hooked IoT firmware into GraphQL.

- Managed a fleet of IoT devices with a Lerna-based monorepo workflow.

L&T Technologies, Hartford, CT — Embedded Software Engineer

Jan 2020 – Jun 2020

- Used C and C++ to write verification software for sub-contractor Collins Aerospace, following the **DO-178B** software development process.
- Identified previously unexplored test cases representing mid-level risk; implemented mitigations.
- Worked within a small interdisciplinary team on software for wearable systems.

Funguana Inc, Rochester, NY — Full-Stack Developer

Jan 2018 – Jan 2020

- Designed and developed Python microservices to host machine learning models with Sanic, Flask, and FastAPI.
- Launched multiple supervised online-learning microservices that worked in tandem to critique a Deep Reinforcement Learning system built on Ray.
- Published several Python libraries to PyPI; built an end-to-end pipeline that automatically traded cryptocurrency.
- Used Redis and Kafka to schedule tasks and search through model metadata; deployed ML software to AWS with Docker and GitLab CI/CD to Kubernetes.

Ahold USA, Boston, MA — Front-End Co-op

Jan 2017 – Jun 2017

- Contributed to front-end projects using React.js and WordPress; developed a contextual chatbot algorithm.
- Collaborated with the Data Science team using Flask, React, and Hive.

Freelance, Detroit, MI — Software Developer

Jun 2015 – Aug 2016

- Used Angular.js and Ruby on Rails with PostgreSQL for client applications; later engagements used Vue.js. Clients included Memloom and Fuse Technology Group.

Quicken Loans, Detroit, MI — Intern

Jun 2014 – Aug 2014

- Built productivity tooling as an extension of JIRA using C#, .NET, and Angular.js; created market-segmentation features with C#, SQL, and .NET.

PROJECTS

- **OmoiOS** — github.com/kivo360/OmoiOS: open-source orchestration runtime for autonomous AI development. Spec-to-PR pipeline with parallel background agents, isolated sandboxes, and quality gates. Apache 2.0.
- **TensorTrade**: built tests and new Docker build processes for the TensorTrade reinforcement-learning library.
- **Pythonic Data-Engineering Tools**: stream-processing utilities on PyPI, including *Jamboree* (event-sourcing) and *Spacetime* (metadata store).
- **Referral App**: React.js + Sanic referral tool; **RRH Clinical Location App**: Node.js service for scrubbed clinical data at Rochester Regional Health.

EDUCATION

B.Sc. Information Systems, Rochester Institute of Technology, Rochester, NY — 2018. Dual minor: Social Science; Business & Entrepreneurship.

LANGUAGES & TECHNOLOGIES

- **Languages**: Python, JavaScript, TypeScript, Node.js, Ruby, Java, C#, Rust, Dart, Solidity, C/C++
- **Databases**: MongoDB, Redis, MySQL, PostgreSQL, Neo4j, RabbitMQ, Hadoop (Hive, Pig), pgvector
- **Frameworks**: React.js, React Native, Next.js, Express, Angular.js, Vue.js, Ruby on Rails, Spring (Java), Flask, FastAPI, Sanic, Ray, Scikit-learn, SQLAlchemy
- **AI / Agent Orchestration**: Claude Agent SDK, Daytona sandboxed execution, DAG-based parallel agent scheduling, self-healing background-agent pipelines, BYOK integration (Anthropic, OpenAI), pgvector retrieval
- **DevOps**: Docker, Kubernetes, GitHub Actions, GitLab CI/CD, Travis CI, AWS, Google Cloud
- **OS**: macOS (Unix), Linux (Ubuntu, CentOS), Windows