

Aaron Mekonnen

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Software Engineer with 8+ years of backend, infrastructure, and platform engineering experience. Strong background in distributed systems, container orchestration (Docker, Kubernetes) across AWS and GCP, and infrastructure-as-code (Terraform, CI/CD). Hands-on experience building agentic AI workflows and tool-calling automation using Claude agents to reproduce, debug, and root-cause failures across production systems.

PROFESSIONAL EXPERIENCE

PatientPoint | Senior Software Engineer

May 2026 – Present

- Built autonomous agentic AI workflows using Claude agents/skills, with tool-calling loops and multi-step task automation, to reproduce production issues and distinguish infrastructure failures from application-level bugs.
- Own CI/CD deployment pipelines (GitHub Actions) and observability/alerting (New Relic) for containerized Kubernetes infrastructure.
- Designed backend APIs for the ad-serving platform, including targeting logic and delivery infrastructure, on AWS/Kubernetes.

Utilized: Python, FastAPI, React, AWS, Kubernetes, Docker, GitHub Actions, New Relic, Claude Code, agentic AI workflows, tool-calling

Tarana Wireless | Software Engineer, Tools & Infrastructure

Sept 2022 – May 2026

- Designed and built a distributed resource-broker service in Go to coordinate shared hardware test resources across concurrent clients, using SQS, Redis, and heartbeat-based liveness detection to prevent allocation conflicts and automatically recover resources after client failures.
- Built and operated a hybrid on-prem/cloud service footprint, including NFS storage, Docker Compose services, and EC2-hosted infrastructure, to support shared hardware test environments.
- Scaled a containerized ECS task deployer service to reliably handle up to 2,000 tasks per minute.
- Built infrastructure-as-code CI/CD pipelines in GitLab and deployed containerized applications in EKS (Kubernetes) with autoscaling and rolling updates.
- Owned QA pipeline infrastructure and a Python environment virtualization framework, providing secure, reproducible sandboxes for users on shared machines.
- Architected and deployed an enterprise-scale Retrieval-Augmented Generation (RAG) system with vector search and embedding-based retrieval, unifying internal resources.

Utilized: Python, Golang, goroutines, concurrency, React, Docker, Kubernetes, Terraform, Redis, AWS SQS, ECS, EKS, distributed systems, async messaging, heartbeat/timeout patterns, event-driven architecture, LangChain, LangGraph

Randstad | Software Engineer II, Chat Applications

Oct 2020 – Sep 2022

- Built and scaled a conversational AI screening platform for enterprise clients, including a large-scale deployment for Amazon's warehouse hiring pipeline that grew from 10K to 200K daily conversations on Cloud Run.
- Developed and managed containerized conversation-engine microservices utilizing DialogFlow, AsyncIO, and FastAPI on Google Cloud Platform (GCP), securing API access with JWT-based authentication.
- Built automated testing tools and CI/CD pipelines for GCP deployments.
- Engineered scalable NLP solutions by integrating pre-trained language models to improve accuracy.

Utilized: Python, Docker, GCP, Cloud Run, NLP, FastAPI, microservices, JWT, API authentication, async processing, stateful conversation engines

Abbott Laboratories | Software Engineer

May 2018 – May 2019

- Designed and developed a test automation infrastructure framework to support continuous integration and delivery with high test quality and coverage.
- Re-architected and migrated a monolithic dashboard application into a Docker-containerized microservices architecture.
- Built a Python client library using gRPC to communicate with a RabbitMQ (AMQP-based) message server.

Utilized: Python, Docker, gRPC, microservices, Flask, SQLAlchemy, RabbitMQ, message queues

Robotic Sensor Networks (RSN) Lab, University of Minnesota | Research Assistant

Jul 2015 – Dec 2016

- Designed and simulated robotic control systems for dynamic environments, including autonomous sensing and navigation for UAVs and mobile robots.
- Implemented sampling-based motion planning algorithms combining sensor fusion with advanced motion planning, tested in simulation using ROS and Gazebo.

TECHNICAL SKILLS

Languages: Python, Golang (goroutines, concurrency), JavaScript, React

Infrastructure & Cloud: AWS, GCP, Docker, Kubernetes, EKS, ECS, Terraform, Linux, infrastructure-as-code, cloud-native

Backend & Distributed Systems: FastAPI, Django, distributed systems, event-driven architecture, async messaging, heartbeat/timeout patterns, eventual consistency, async processing, microservices, PostgreSQL, MongoDB, Redis, Elasticsearch, gRPC, RabbitMQ, message queues, SQS

Security: JWT, API authentication

Agentic AI & Automation: Claude Code, agentic AI workflows, tool-calling, LLMs, RAG, vector search, embeddings, PyTorch, LangChain, LangGraph

CI/CD & Observability: GitHub Actions, GitLab CI, New Relic, Prometheus, Grafana, Git

EDUCATION

Arizona State University | Master of Computer Science Aug 2022

University of Minnesota | Bachelor of Computer Engineering May 2017