

YONAS MEKONNEN

Forward Deployed Engineer | Backend & AI Systems Engineer

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PROFESSIONAL SUMMARY

Backend-focused fullstack engineer with 3+ years building and shipping production backend systems, now working across the AI stack: agentic systems, LLM evaluation, and ML pipelines. I am comfortable taking ambiguous requirements and turning them into running services, owning REST APIs from schema design to deployment, and tuning Postgres until the slow queries stop being slow. Recent work covers multi-agent orchestration with LangGraph, MCP-based tool integration, LoRA fine-tuning with SFT and DPO, and data-contract enforcement across multi-stage pipelines.

TECHNICAL SKILLS

Languages: Go, Python, Node.js, JavaScript, TypeScript

Backend & APIs: REST API Design, Clean Architecture, Microservices, Distributed Systems, Event Sourcing, CQRS

AI / ML / Agents: LLM Orchestration, LangGraph, Multi-Agent Systems, RAG, MCP (Model Context Protocol), LoRA, SFT, DPO, LLM-as-Judge Evaluation, Prompt Engineering

Data & Pipelines: Data Contracts, Schema Validation, Data Lineage, ETL, Document Intelligence, Semantic Chunking

Databases: PostgreSQL, MongoDB, MySQL, MariaDB, InfluxDB, DuckDB, SQLite

DevOps & Cloud: Docker, Kubernetes, GitHub Actions (CI/CD), AWS (EC2, S3, RDS), Logging and Metrics

Frontend: React, Next.js

WORK EXPERIENCE

Forward Deployed Engineer | 10 Academy / Tenacious Intelligence Recruitment Program, Remote | March 2026 – May 2026

- Worked through nine simulated client briefs, each a one-week delivery cycle that asked us to ship a working ML, agentic, or data system from an ambiguous prompt.
- Shipped production-style systems including an automated code auditor, a codebase intelligence agent, a document intelligence pipeline, an event-sourced audit ledger, and a benchmark-driven model trainer.
- Built multi-agent workflows in LangGraph and exposed governance tools to LLMs through MCP (Model Context Protocol).
- Wrote data contracts and schema validators that catch silent corruption and statistical drift across heterogeneous sources, and traced violations back to their origin using lineage graphs.
- Trained LoRA adapters with SFT and DPO on a custom 200-task benchmark for sales agents, targeting a specific failure mode I had identified the week before; published the dataset and model card on HuggingFace.

Backend Developer | EagleLion System Technologies, API Development Team, Addis Ababa, Ethiopia | August 2024 – Present

- Designed and shipped REST APIs in Node.js and PostgreSQL, with sub-100ms response times on critical endpoints and roughly 40% faster data access on the rewritten paths.
- Refactored backend services to clean architecture, which cut maintenance overhead and made onboarding easier for newer engineers (about 30% improvement on our internal review metrics).
- Tuned SQL queries, indexes, and schemas for high-traffic endpoints, dropping latency by around 25%.
- Worked with frontend and DevOps to ship features through Docker and GitHub Actions, which reduced manual release work.

- Wrote and kept the internal Swagger / OpenAPI docs current, which cut down on Slack pings asking how endpoints work.

Software Engineer | Independent Projects & Contract Work | October 2023 – July 2024

- Designed and built backend systems and APIs for several clients, mostly clean-architecture Node and Python services.
- Spent this period going deeper on system design, database tuning, and observability through real client work rather than tutorials.

Software Engineer | EagleLion System Technology, API Development Team, Addis Ababa, Ethiopia | May 2023 – September 2023

- Built backend services in Express.js and MongoDB for a skill-based recruitment platform that matched candidates by skills, experience, and location.
- Implemented JWT auth and role-based access control for recruiter and applicant flows.
- Tuned MongoDB schemas, indexes, and aggregations, which made candidate search over 40% faster.

FORWARD DEPLOYED ENGINEERING PROJECTS (TRP1)

AI-Native IDE & Intent-Code Traceability

A VS Code extension that links business intent, code AST, and agent action through sidecar files (active_intents.yaml, agent_trace.jsonl). It runs deterministic hooks to enforce architectural rules and lets parallel agents share context through content-hashed traces.

The Automaton Auditor: Multi-Agent Code Auditing Swarm

A LangGraph swarm that grades code repositories against a structured rubric. A Detective stage runs forensic analysis, a Prosecutor and Defense argue the findings against a Tech Lead, and a Chief Justice node returns a deterministic verdict and remediation plan.

Document Intelligence Refinery

A five-stage pipeline (Triage, Multi-Strategy Extraction, Semantic Chunking, PageIndex, Query Interface) that turns mixed PDFs, scans, and tables into structured, spatially-indexed knowledge. The pipeline escalates from fast text extraction to layout-aware and then vision-augmented strategies only when earlier stages cannot answer.

The Brownfield Cartographer: Codebase Intelligence

A four-agent system that ingests GitHub repos and produces a CODEBASE.md, day-one onboarding briefs, semantic indices, and lineage graphs. The agents are a tree-sitter Surveyor, a Hydrologist for data lineage, a Semanticist for LLM-driven purpose analysis, and an Archivist that keeps the context current.

Agentic Event Store & Enterprise Audit Infrastructure

An event-sourced ledger built on PostgreSQL with CQRS projections, optimistic concurrency, cryptographic integrity checks, and event upcasting. Exposed to agents through MCP tools so LLMs can query history without bypassing the audit log.

Data Contract Enforcer

A schema validation and lineage system. ContractGenerator produces contracts from sample data, ValidationRunner checks live data against them, ViolationAttributor walks the lineage graph to find the upstream system that broke the contract, and SchemaEvolutionAnalyzer tracks drift over time.

The Oracle Forge: Production Data Analytics Agent

A multi-layer analytics agent over PostgreSQL, MongoDB, SQLite, and DuckDB. It uses three context layers, a self-correcting execution loop, and an evaluation harness, and integrates the auditor, document refinery, cartographer, event store, and contract enforcer from earlier weeks into one compound system.

Conversion Engine for Sales Automation

An automated lead-generation system that grounds outreach in real signals (Crunchbase firmographics, job-post velocity, layoffs.fyi, AI-maturity scoring). It qualifies prospects against ICP segments, drafts competitor-gap briefs, and runs multi-channel outreach. Benchmarked against T²-Bench retail.

Tenacious-Bench: Sales Agent Evaluation Bench

A 200-task benchmark built through multi-LLM synthesis with judge filtering. I trained LoRA adapters using SFT, DPO, and a process-reward model to address a specific sales-agent failure mode found in the previous week, and published the dataset, datasheet, and model card on HuggingFace.

SELECTED PRIOR PROJECTS

Dashen Super App, Mobile Banking Platform

Backend services for a mobile banking super app used by one of Ethiopia's largest banks. Built secure transaction APIs, authentication, and role-based access control, and tuned the hot paths for high transaction volume.

StarPay, Digital Payment Gateway Platform

A national digital payment gateway. Worked on multi-channel payments (QR, payment links, USSD, reference-based) with the reliability budget you would expect for real-time money movement.

TeleTv, Online Cinema Streaming Platform

Backend for Ethiopia's first online cinema, used by thousands of users on Android and iOS. Built rental APIs, time-limited content access, mobile auth, and payment-gateway integrations.

E-commerce Platform

A REST API for an e-commerce platform consumed by React and Next.js apps. Covered product catalog, cart, order management, and authentication, with attention to data access patterns under read-heavy load.

Job Notification Telegram Bot

A bot that polls Djinni RSS feeds and sends keyword-filtered job alerts to subscribed users, with deduplication to avoid spamming the same listing twice.

EDUCATION

B.Sc. Software Engineering | Jimma University, Jimma, Ethiopia | 2019 – 2024

CERTIFICATIONS & TRAINING

Tenacious Intelligence Recruitment Program (TRP1), Forward Deployed Engineer | 10 Academy | March 2026 – May 2026

Applied AI training program covering agentic systems, LLM evaluation, data contracts, and end-to-end ML delivery against weekly client-style briefs.