AREMU OLUWATOBILOBA TAIWO

AI Engineer | Backend Engineer

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PROFESSIONAL SUMMARY

AI Engineer with a strong backend foundation, specialising in building intelligent systems powered by Large Language Models. Experienced designing and shipping end-to-end AI pipelines, production-style REST APIs, database-backed services, real-time voice agents, Agentic AI and LLM-integrated endpoints with schema validation, retry logic, and cost controls. From authentication and containerised deployment to agent design and tool-connected AI systems. Motivated, fast-learning, and driven by practical impact through problem solving.

TECHNICAL SKILLS

AI : RAG Pipelines, LLM Integration, Prompt Engineering, , Voice AI Agents , Agentic AI Systems, Model Context Protocol (MCP)

Backend Development: Python, FastAPI, Flask, REST API Design, WebSockets, PostgreSQL, SQLite, SQLAlchemy

Authentication & Security: Supabase Auth, JWT, bcrypt password hashing, Microsoft Entra ID

Deployment: Docker, Docker Compose, GitHub Actions (CI/CD), Microsoft Azure, Git, GitHub

Automation: Microsoft Copilot Studio

EXPERIENCE

Backend AI Engineering Intern, FlyRank AI (Remote) **2026 – DONE**

- Built and deployed a full CRUD REST API in Python (FastAPI) with request validation, then migrated storage from in-memory to a real SQLite database with zero change to API behaviour; documented and published to GitHub.
- Implemented secure authentication with Supabase Auth and JWTs, covering signup, login, logout, and protected routes, verified via Swagger UI.
- Built a background-job API with Inngest: instant 202 response, status endpoint for polling, automatic retries, and a scheduled cron job.
- Designed and built a personal AI agent (a Weekly Review Assistant) pulling data through a live connector, following a written design spec with eval cases and safety guardrails.
- Integrated an LLM into a backend endpoint with a parse-validate-repair pipeline, timeout and backoff/jitter retry logic, structured cost logging, and a kill switch; verified against a written evaluation set.
- Containerised a FastAPI + PostgreSQL backend with Docker Compose, connecting the service to Postgres through a repository layer with zero change to the API layer, and confirmed data persistence across a restart.

AI Engineering Facilitator, LearnItDigitalHub (Remote) **2026 – Present**

- Facilitate training in AI Engineering & Intelligent Systems, and in Deep Learning & Advanced Generative AI.
- Deliver the AI Engineering track through structured video lessons and hands-on assignments covering prompt engineering, LLMs, RAG, Automation and Agentic AI.
- Teach Nano Diploma in AI Fundamentals mentorship class, including Generative AI & Prompt Engineering, writing beginner-friendly learner notes.
- Responsible for expanding course curriculum with supplementary material to support student learning outcomes.
- Prototyped a support agent in Microsoft Copilot Studio that answers bootcamp handbook questions and forwards learner messages to a facilitator by email.

PROJECTS

Voice AI Customer Support Agent with Live Human Agent Handoff **2026**
Website: https://shopdarret.vercel.app || **Github: https://github.com/Aremuoluwatobi/voice-agent**

- Designed and shipped an end-to-end voice support system where customers talk to an AI agent in the browser in real time, and unresolved calls escalate to a human agent.
- Built a secure human agent dashboard with login, live alerts, and an AI-written handoff summary. The human joins the same call, and the AI announces the handover then stays silent, so the customer never repeats themselves.

- Grounded the AI's answers in a curated knowledge base using retrieval, and measured retrieval and answer quality with RAGAS evaluation to improve the agent with evidence.
- Built an AI helper that lets the human agent search the same knowledge base during a call. Results are checked against the source text
- Network issue occurs or the human agent accidentally refreshes their browser, the system automatically retries the connection and provides a few-second grace period for them to rejoin the call.
- End-to-end call transcript capturing both the initial AI agent chat and the human agent interaction.
- Human agent drops off accidentally or loses connection, the AI agent steps in seconds later to notify the customer and end the call.

Fabrikam Mobility Taxi Recommender **2026**

Website: https://yellow-hill-0648c4e03.6.azurestaticapps.net

Github: https://github.com/Fabrikam-comp/mmaug_Fabrikam_Mobility_Taxi_Recommender

- Built and deployed a cloud-native taxi recommender on Azure: a containerised FastAPI backend on Azure App Service, a static frontend on Azure Static Web Apps, and Azure Cosmos DB (NoSQL) for trip history, with per-user partitioning and 90-day automatic expiry.
- Integrated Microsoft Foundry: provisioned a Foundry resource, project and agent, with keyless access through managed identity and Azure RBAC. AI explanations are grounded in verified facts, a validator blocks invented prices or provider names, and a template takes over if the model fails.
- Secured the platform end to end: Microsoft Entra ID sign-in (MSAL.js) with server-side token validation (signature, issuer, audience, tenant), HMAC-hashed user IDs, idempotent booking requests and strict per-user data isolation.
- Automated delivery with GitHub Actions: Docker image build and push to GitHub Container Registry, passwordless Azure login with OIDC and a managed identity, path-based deploys, a pre-deploy container start-up test and an automatic health check.
- Designed rule-based ranking over three simulated providers (Bolt, Uber, eCabs) behind adapters, with parallel quotes, circuit breakers, timeouts and ECB exchange-rate conversion across 10 currencies. AI is used only to write the explanation.

CERTIFICATIONS

13 courses from Anthropic Academy, including the Claude code in action course. Full list with verification links available on the portfolio site.

EDUCATION

Bachelor of Arts in History, University of Ilorin **2023 – Present**

INTERESTS

- AI Engineering and Large Language Model Applications
- Backend Engineering
- Applying AI to solve real-world problems across different fields and industries, including AI automation for businesses