Ukoh Emmanuel David

Full Stack and Machine Learning Engineer

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Professional Summary

Full Stack and Machine Learning Engineer with hands on experience delivering production web platforms and AI driven systems using Django, FastAPI, Next.js, React, and applied machine learning. Directing architecture and engineering delivery while contributing to enterprise interfaces and backend services. Experienced across API design, data modelling, retrieval-augmented generation, deployment, and production monitoring.

Core Skills and Tools

Machine Learning & AI: Retrieval Augmented Generation (RAG), FAISS vector search, PyTorch, OpenCV, MediaPipe, LLM, model benchmarking and calibration.

Programming Languages: Python, TypeScript, C++, SQL.

Backend Engineering: Django, Django REST Framework, FastAPI, Node.js, Express, REST APIs, microservices, distributed systems.

Frontend Development: Next.js, React, React Native, Tailwind CSS, Zustand, Redux, Framer Motion.

Databases & Analytics: PostgreSQL, MongoDB, Supabase, database design and optimisation, BI analytics.

Cloud & Developer Tools: Git, Docker, Kubernetes, Linux/Bash, CI/CD.

Professional Experience

Full Stack Developer Intern at XStakUp Aug 2025 – May 2026

At XStakUp, I built and optimised responsive interfaces. I integrated asynchronous REST APIs, improved rendering efficiency, resolved linting CI/CD, and collaborated during Agile sprints on accessibility and performance improvements.

Software Developer at Marque Group Feb 2026 – Present

At Marque Group, I develop backend microservices, data pipelines, and relational models. My work includes secure authentication, role based access control, internal administration portals, deployment configuration and production incident response.

Featured Projects

Nexus AI Large Language Model and Intelligent

Developed an open-source LLM framework and full-stack AI platform featuring advanced reasoning, multimodal processing, autonomous agents, Mixture-of-Experts (MoE), retrieval-augmented generation (RAG), semantic search, real-time streaming, and scalable backend infrastructure.

The Confident Failure Benchmark (CFB) AI Evaluation Framework

Designed an evaluation benchmark for model self calibration, confidence scoring and hallucination rates on STEM reasoning tasks. Constructed deterministic datasets, developed ground truth scoring procedures, and documented the framework for an AI/AGI research hackathon submission.

Aurikrex Academy (FalkeAI) Adaptive AI Educational Engine

Built an AI driven educational platform with automated lesson tree generation, modular learning pathways, email OTP authentication, JWT sessions, activity tracking and adaptive feedback based on learner performance.

Digidrops Web3 Application Platform

Developed a BNB Smart Chain platform with Soulbound Token quest tracking and referral incentives. Integrated multiple wallet adapters, optimised smart contract RPC interactions and managed application wide.

Elium AI Offline Model Optimiser

Developed a lightweight, multilingual offline STEM tutor for learners with limited internet connectivity. Deployed a quantised Qwen3 model; the original CV reports 84% offline operation on budget hardware.

Education

B.Sc. Computer Science University of Ibadan 2025 – 2029

In progress

Certifications

Google Project Management Professional Coursera

System Design & API Architecture Fundamentals

Frontend and backend development