AbdulSalam Ayeleru

GitHub: Black-fox17 | Portfolio: salam-portfolio-three.vercel.app |
Email: ayeleru1234@gmail.com

PROFESSIONAL SUMMARY

AI Fullstack Engineer with expertise in **backend architecture, deep learning, and intelligent system design**. Experienced in building and deploying **end-to-end AI applications**, from **LLM fine-tuning and computer vision models** to **scalable backends and AWS cloud services**. Passionate about **bridging AI research and production**, creating systems that are both **intelligent and engineered for scale**.

SKILLS

- Programming: Python, Java, C, C++, JavaScript/TypeScript, SQL
- Frameworks: FastAPI, Django, Express.js, Next.js, React.js, Preact, Fastify
- AI/ML: PyTorch, TensorFlow, scikit-learn, MediaPipe
- Domains: Computer Vision (YOLOX, YOLOv8, Pose Estimation), NLP (LLMs, LangChain, Prompt Engineering)
- Tools & Cloud: AWS (Lambda, SQS, DynamoDB), Docker, Git, Postman, Firecrawl
- Databases: MongoDB, MySQL, PostgreSQL
- Payments: Flutterwave, Paystack, Ercas
- Languages: English (Highly Proficient)

PROFESSIONAL EXPERIENCE

Fullstack AI Engineer — Codygo
(Remote)
May 2025 – Present

- Architecting and deploying **end-to-end AI-powered applications**, integrating LLMs and computer vision into production-grade fullstack systems.
- Leading development of **scalable backend infrastructures** with FastAPI and secure APIs, optimized for real-world enterprise use cases
- Building **intelligent frontend interfaces** with React.js and Next.js, connected to AI-assisted backends for seamless user experiences.
- Designing and managing **cloud-native deployments** on AWS using lambda for serverless compute, SQS for event driven message queues, DynamoDB for high performance data storage
- Developing Custom Scheduler handlers on AWS lambda for automated AI task orchestration and data processing pipelines
- Implementing CI/CD pipelines with GIthub Actions and Docker
- Building a data Syncing pipeline to crawl data using Firecrawl and sync it into our mongoDB database.
- Collaborating with cross-functional teams to deliver **AI-first digital products**, ensuring system reliability, scalability, and high availability.

AI Engineer & Backend Developer — Tweakr (Remote)
Contract

- Architected and deployed NLP based citation engine processing 1k+ documents monthly for Tweakr, a platform designed to automatically insert in-text citations and generate end references from user-submitted documents.
- Built a robust NLP pipeline capable of parsing academic texts, identifying relevant sources, and formatting citations in real time.
- Designed and deployed the backend server architecture using FastAPI, integrating MongoDB for efficient user and document data management.
- Ensured smooth backend operations including authentication, document handling, citation generation, and system scaling for growing user demand.
- Implemented AI logic to dynamically match document content with external databases and APIs, providing highly accurate citation recommendations.
- Optimized server-side performance, achieving fast document processing times and a seamless user experience.
- Collaborated closely with frontend developers and product managers to refine system functionality and deploy production-ready features.

AI Intern — Institute of Advanced Medical Research and Training (IAMRAT) 2024 - 2025

- Conducted cutting-edge AI research focused on developing machine learning models for breast cancer subtype classification using histopathological images.
- Built a deep learning pipeline leveraging ResNet and MobileNet architectures, achieving high diagnostic accuracy.
- Integrated the classification model with a fine-tuned Large Language Model (LLM) to generate explainable, human-like diagnostic reports.
- Developed web-based applications including dynamic Excel data collection tools and SOP workflow visualization systems using FastAPI and React.
- Deployed full-stack applications for internal research data management and supported external diagnostic centers through professional web development.
- Gained hands-on experience observing real-time medical diagnostic procedures, enhancing AI model designs with practical medical insights.
- Advocated for responsible AI integration in healthcare,supporting human-AI collaboration rather than replacement

Personal Projects

- **AI-Powered Research & Learning Platform with Generative Visualizations** — *Fullstack AI Platform*
  Built an AI-driven platform combining **LLMs, Manim, and FastAPI** for visual learning, knowledge retrieval, and enterprise collaboration.
- **Computer Vision Retail Shelf Intelligence System** — *YOLO-based Retail Analytics*
  Fine-tuned **YOLOv8** to detect and map retail products on shelves, generating structured inventory tables for stock and supplier management.
- **Foundational AI Reimplementations (Autoencoder, GPT Transformer)**
  Implemented **autoencoder** and **GPT-like Transformer** architectures from scratch using raw Python operations and NumPy, validating attention mechanisms and training loops mathematically.
- **ASL Interpretation System reproduced (1st Place Solution)**
  Implemented a **MediaPipe + Transformer** model for real-time sign language translation from video to text, achieving top benchmark accuracy.
- **Java Numerical Framework (NumPy-like Library)**
  Created a **NumPy-style numerical computation library in Java** implementing advanced trigonometric and hyperbolic operations

EDUCATION

Bachelor of Science

University Of Ibadan

Computer Science

CERTIFICATIONS

- Deep Learning Specialization (Coursera)
- Hugging Face Transformers Course

ADDITIONAL ACHIEVEMENTS

- **Mentor, TechQing Community** – Mentored and inspired **150+ young girls** in technology and artificial intelligence, guiding them toward careers in STEM.
- **Co-Lead, RAIN-INN (University of Ibadan)** – Led **innovation programs and AI community projects**, fostering collaboration among students and researchers.
- **Instructor, Larva Tech Academy** – Delivered **intensive hands-on training** in programming and AI to aspiring developers, emphasizing project-based learning.
- **Data Structures & Algorithms Proficiency** – Demonstrated strong problem-solving skills through consistent practice and application of **DSA** principles in real-world AI and backend systems.
- **Open-Source Contributor** – Contributed to projects under **Google Developer Programs** and **HNG Internship** initiatives, improving codebases and documentation.