

# Testimony Adekoya

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## SUMMARY

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Machine Learning Engineer with 4+ years of experience designing, building, and deploying production ML systems across computer vision, NLP, and optimization domains. Track record of shipping end-to-end ML pipelines—from data ingestion and model training to containerized deployment and monitoring—on AWS, GCP, and Azure. Experienced with PyTorch, TensorFlow, and Hugging Face for model development, and Docker, FastAPI, Celery, and Redis for scalable serving infrastructure. Currently building decision intelligence platforms at DataBacked Africa, solving large-scale resource allocation problems with custom optimization algorithms.

## EXPERIENCE

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- **DataBacked Africa (DBA)**  Aug. 2025 – Present  
*Applied Machine Learning Engineer* Lagos, Nigeria
  - Architecting Intelligen, a Decision Intelligence and Optimization Platform serving healthcare and public sector clients, designing end-to-end ML pipelines from data ingestion through model deployment and monitoring.
  - Designed and deployed an Intelligent Assignment Engine using Memetic Algorithms to solve large-scale resource allocation—optimizing placement of 500+ medical graduates across 750+ healthcare facilities.
  - Built backend optimization APIs (FastAPI) for dynamic clinical referral and resource allocation, handling real-time inference requests at scale.
- **Synthik Labs**  Oct. 2025 – Dec. 2025  
*Machine Learning Engineer* Remote
  - Built a scalable ML pipeline for multi-modal synthetic data generation (tabular, text, image) using FastAPI, PyTorch, and asynchronous task processing via Celery and Redis.
  - Implemented parallelized LLM batch inference with schema enforcement, fuzzy de-duplication, and multi-format export (CSV, Parquet, Arrow, Excel), optimizing throughput for large dataset generation.
  - Integrated data provenance tracking via Filecoin blockchain, ensuring reproducible and auditable data lineage across the pipeline.
- **TAO AI**  May 2024 – Oct. 2024  
*Machine Learning Engineer – Intern* Lagos, Nigeria
  - Fine-tuned TinyLLaMA for domain adaptation to African agricultural contexts using AWS SageMaker, EC2, and S3, building reproducible training pipelines on cloud infrastructure.
  - Performed knowledge distillation to compress large language models for deployment on resource-constrained edge environments, reducing inference cost while maintaining accuracy.
  - Deployed end-to-end LLM chatbot and credit scoring systems using Langchain, FastAPI, and Docker, with containerized microservices architecture for production reliability.




## EDUCATION

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- **Federal University of Agriculture Abeokuta (FUNAAB)** June 2025  
*B.Eng., Electrical and Electronics Engineering* | GPA: 3.87/5.00 Abeokuta, Nigeria

## SELECTED PROJECTS

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- **AfriVTON-Bench: Evaluating Virtual Try-On Model Robustness** 2026 – Present  
*PyTorch, Hugging Face Diffusers, LPIPS, FID, SSIM*
  - Designing and building evaluation pipelines to benchmark state-of-the-art virtual try-on models (IDM-VTON, OOTDiffusion, CatVTON, FitDiT) on culturally diverse garment datasets, using automated metric computation (FID, LPIPS, SSIM) and frequency-domain analysis.
- **MMIBC: Multimodal Breast Cancer Diagnosis Framework** Jan. 2025 – June 2025  
*PyTorch, Vision Transformers, Explainable AI* 
  - Designed a multimodal vision transformer framework fusing mammography and ultrasonography for breast cancer diagnosis. **Best Poster Award**, DSN AI+ Bootcamp 2025; paper submitted to MIWAI 2026.
- **SnapFeast AI: Personalized Meal Ordering with Facial Recognition** May. 2025  
*FastAPI, PyTorch, OpenCV, Scikit-learn, PostgreSQL, Docker* 
  - Built a modular FastAPI backend with dedicated auth, orders, users, and services modules—facial recognition login (PyTorch, OpenCV, 90% accuracy), a preference-aware recommendation engine (Scikit-learn), and PostgreSQL-backed order management, containerized with Docker and deployed on Hugging Face Spaces.
- **Verifacts: AI-Powered Fact-Checking System** Nov. 2025  
*NLP, Browser Extension, Mobile App, FastAPI* 

– Developed the backend for an AI-powered fact-checking platform, serving real-time claim verification via NLP-based evidence retrieval and classification, with cross-platform deployment as a Chrome browser extension and a mobile application.

• **They AI: LLM-Powered Virtual Therapist**

Jan. 2025

*Langchain, FastAPI, Redis, Hugging Face Transformers*



– Built a Telegram-deployed virtual therapist using RAG with LLMs (Hugging Face Transformers, Langchain), featuring real-time emotion detection from text input, adaptive therapeutic responses, mood-based music recommendations, and Redis-backed stateful conversation history across sessions. Deployed on Hugging Face Spaces with a FastAPI serving layer.

## TECHNICAL SKILLS

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- **Languages:** Python, C++, SQL
- **ML Frameworks:** PyTorch, TensorFlow, Scikit-learn, Keras, OpenCV, Hugging Face Transformers/Diffusers, Pandas, NumPy
- **ML Domains:** Computer Vision (Detection, Classification), NLP (LLM Fine-tuning, RAG, TTS), Multimodal ML, Recommender Systems, Optimization (Genetic/Memetic Algorithms)
- **MLOps & Infrastructure:** Docker, FastAPI, Celery, Redis, Langchain, CI/CD, Git, Hugging Face Spaces
- **Cloud Platforms:** AWS (SageMaker, EC2, S3), GCP, Azure
- **Data & Storage:** PostgreSQL, Pandas, PyArrow, Parquet, SQL

## CONFERENCES AND COMMUNITY

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- **Deep Learning Indaba** *Aug. 2025 (Kigali)*  
*Participant & Travel Organizing Committee*
- **African Computer Vision Summer School** *July 2024 (Nairobi)*  
*Participant*
- **Deep Learning Indaba** *Sept. 2023 (Accra)*  
*Participant*
- **DSN FUNAAB Chapter Lead** *June 2023 – Oct. 2025*  
*Led 100+ member AI community; organized workshops and crowdfunding for DLI 2023*