

PEACE BAKARE

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PROFILE

AI-focused software engineer with hands-on generative AI delivery through AWS Bedrock (Nova, Claude), OpenAI, Anthropic, and Qwen LLM integrations, plus HuBERT/WavLM fine-tuning from CMU thesis work. Backed by five years of production backend engineering in C#/.NET, Java, and Python inside a regulated bank. M.S. Information Technology, Carnegie Mellon University.

AI / ML PROJECTS

Bundesliga Video Analyzer (AWS World Sports Innovation Cup), AWS Bedrock Apr 2026 – Present

- **Built** (with 2 co-engineers, finalist in Germany) a Python pipeline that samples frames from S3 clips with OpenCV and calls Amazon Nova Lite via AWS Bedrock Converse API for structured JSON output on players, events, and goals, benchmarked against Claude Sonnet, Claude Haiku, and Pegasus across 24 clips.

M.S. Thesis, Speech-Based Depression Detection, Carnegie Mellon University Sept 2025 – May 2026

- **Delivered** a voice-based clinical depression detection system reaching F1 0.917 on Yoruba and 0.794 on English, extending mental health screening to a low-resource African language with fine-tuned HuBERT and WavLM embeddings in PyTorch.
- **Released YODEP**, the first open bilingual English-Yoruba clinical speech corpus, and authored a PRISMA 2020 systematic review of 276 papers across 14 databases (in preparation).

Deep Learning Coursework Projects, Carnegie Mellon University Jan – May 2026

- **Built** an Encoder-Decoder Transformer (21.3M params, 6+6 layers, 8 attention heads, 5k BPE tokenizer) for end-to-end automatic speech recognition, ranked 8/71 (top 11%) on the CMU 11-785 HW4P2 Kaggle competition.
- **Trained** ResNet34 from scratch (25.7M params) for face verification on 8,631 identities, achieving 2.63% EER and beating the course reference benchmark on HW2P2.

Clinical ML Pipeline for Hepatocellular Carcinoma, EPFL LIGHT Lab, Lausanne Jul 2025 – Oct 2025

- **Selected** from the top 1.3% of 2025 Summer@EPFL applicants. As sole engineer with CHUV surgeons in Lausanne, applied survival ML (Cox, RSF, DeepSurv, N-MTLR) to a 9-centre HCC prognosis study, reaching OS C-index 0.752 and matching it (0.748) with a privacy-preserving federated Cox model.

BACKEND ENGINEERING EXPERIENCE

Backend Engineer, Sterling Bank / The Alternative Bank, Lagos Jul 2021 – Mar 2025

- **Architected** the Signatory Portal, a Central Bank of Nigeria-mandated UBO and AML compliance platform, as sole backend engineer and project lead managing 2 frontend engineers. C#/ASP.NET Core on Azure, React frontend.
- **Led** the re-architecture of the Account Statement application, cutting latency by ~4 minutes to enable real-time bank-stamped statements for customers processing embassy visa applications.
- **Cut** team-wide debug time by 30% on SterlingPro, Sterling's Corporate Internet Banking platform (100,000+ active businesses), by building an internal logging library that eliminated logging boilerplate.

Software Engineer, Axxess Technologies (US, Remote) Jan 2024 – Feb 2025

- **Maintained** Axxess HomeCare across 56 microservices on ASP.NET Core MVC for US healthcare clients, resolving 40+ feature and bug tickets via code changes and query optimisation traced through Kibana logs across a five-country team.

EDUCATION

M.S. Information Technology, Carnegie Mellon University (College of Engineering) May 2026

Concentration: AI & Software Engineering, Privacy & Security. Coursework: Introduction to Deep Learning (Bhiksha Raj), Machine Learning for Signal Processing, Data Inference & Applied ML, Usable Privacy & Security.

B.S. Computer Sciences, University of Lagos 2015 – 2019

TECHNICAL SKILLS

AI / ML: PyTorch, HuBERT, WavLM, AWS Bedrock (Nova, Claude), OpenAI, Anthropic, Hugging Face Transformers

Languages: Python, C# 12 / .NET 8, Java (Spring Boot), JavaScript, TypeScript, SQL

Backend & Web: ASP.NET Core, Spring Boot, FastAPI, REST APIs, microservices, React (working knowledge), JWT, OAuth

Cloud & DevOps: AWS (Bedrock, S3), Azure, Docker, Kubernetes, GitHub Actions, PostgreSQL, MongoDB, CI/CD