

Emmanuel Idoko

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<https://github.com/pidoxy>

Education

University of Lagos

2021 – 2027

Bachelor of Science in Computer Science, **CGPA:** 4.68/5.0

Lagos, NG

Relevant CourseWork: Discrete Mathematics, Discrete and Data Structures, Computational Methods, Linear Algebra, Python Programming, C programming, Net Centric Computing, Algorithm and Complexity, Compiler Construction, Concurrent Programming, Operations Research Techniques, Analysis and Design of Digital Systems, Systems Analysis and Design, Operating Systems, Machine and Assembly Language.

Udacity

October 2022 – Jan 2024

AI Programming with Python Nanodegree

Remote

Experience

AidCare

May 2025 – Present

Founder & AI/ML Engineer

Lagos, Nigeria · Remote

- Built a medical AI assistant by digitizing and structuring 500+ Nigerian clinical protocols into a semantically searchable knowledge base, cutting healthcare staff lookup time by 25%.
- Developed a token-efficient **data pipeline** and **low-latency query engine**, enabling healthcare workers to access real-time guidance via voice (**Whisper API** integration) and allowing for hands-free clinical guidance.
- Deployed a secure, containerized backend on DigitalOcean with RBAC, scoped tokens, and anonymized logging, ensuring compliance with data privacy standards.

HabariPay - GTCO

April 2025 – June 2025

Software Engineer · Internship

Lagos, Nigeria · Hybrid

- Built a full-stack vendor guide app (**Next.js**, **Node.js**, **PostgreSQL**) for a food festival, used by **260+** attendees and generating **2,100+** page views.
- Automated ingestion of vendor data from 2 sources into a centralized **SQLite DB**, processing hundreds of records with high consistency.
- Implemented a **TF-IDF**-based recommendation engine and **Gemini**-powered summaries, improving user click-through rate by **7%**.

Wema Bank

September 2024 – December 2024

Data and AI · Internship

Lagos, Nigeria · Hybrid

- Researched and built a governance-compliant pipeline to extract and analyze Play Store reviews, producing actionable insights for product teams.
- Contributed to the development of an AI-powered knowledge chatbot for Microsoft Teams, enabling **2000+** staff to instantly access product and process information, reducing support query time.

NexaScale

February 2023 – May 2023

Cloud Engineer · Internship

Lagos, Nigeria · Remote

- Automated deployment of **30+** AWS resources with Terraform, reducing manual setup by 75%.
- Developed a microservice-based application with Node.js, containerized with Docker, and deployed to production with Kubernetes (AKS).
- Streamlined deployments with a CI/CD pipeline (Azure DevOps, Git, Docker) for fast and reliable releases.

ZuriChat

July 2021 – October 2021

Software Engineer & Lead · Internship

Lagos, Nigeria · Remote

- Led a team to ship real-time music and chess rooms using WebRTC, boosting user engagement by 20%.
- Improved backend performance by 50% through caching, code refactoring, and API optimization.
- Managed multi-team deployments with GitHub Actions and Jenkins, ensuring stable integrations across features.

Projects

Modern Search Engine (C#, .NET, Azure, JavaScript) [Demo](#)–Engineered a distributed information retrieval system with a custom inverted index, TF-IDF weighting, and cosine similarity, delivering sub-second query responses across 10k+ PDF/DOCX/TXT files. Designed and validated a robust text-processing pipeline (tokenization, stemming, stop-word removal) with xUnit tests.

PheraCAM (Python, React.js, Azure, OpenAI API) [Demo](#)– Developed a real-time face recognition system leveraging OpenCV and Azure cloud services for scalable, low-latency processing. Achieved >95% recognition accuracy with <150ms response time. This project won 2nd place among 50+ teams at [Hacklab's Hackathon](#), recognized for technical innovation and robustness.

AFCF Portal (Node.js, React.js) – Created a national reporting and coordination platform that streamlined compliance reporting for 500+ users. Automated workflows cut manual data collation time by **75%**, replacing spreadsheet-based processes with a centralized digital system.

Research & Publications

SharpXR: Structure-Aware Denoising for Pediatric Chest X-Rays

MIRASOL 2025 Workshop (Accepted)

- Developed a structure-preserving denoising method for noisy pediatric chest X-rays, reducing artifacts while maintaining clinically relevant features. Demonstrated that denoised images improved downstream pneumonia classification accuracy compared to raw noisy datasets. Research contributes to more reliable AI diagnostic tools for low-resource healthcare settings

Technical Skills

Languages: Python, Java, C#, JavaScript, TypeScript, SQL, Bash

Systems/Tools: Distributed Systems, Data Pipelines, IR Systems, Linux, Git/GitHub

Frameworks: Node.js, Express, Next.js, Flask, FastAPI, Pandas, Numpy, OpenCV

Cloud/DevOps: Azure, AWS, Docker, Kubernetes, Terraform, Jenkins, Git/GitHub, Linux