

Bethel Akande

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Professional Summary

Highly driven and proactive Full-Stack Software Engineer with exceptional proficiency in Python (Django, Flask, LangChain, FastAPI, Tesseract, OpenCV etc) and JavaScript (React, Node.js). Possesses advanced capabilities in Multimodal LLM R&D, AI agent development, and machine learning, demonstrated through the architecture, API development, and deployment of complex, impactful solutions. Adept at leveraging cutting-edge AI for social good, from global healthcare systems to intelligent booking platforms. A resourceful problem-solver committed to continuous learning, delivering impactful results, and excelling in fast-paced, tech-driven environments.

Technical Skills

- **Programming Languages:** Python (Advanced), JavaScript (Advanced), HTML5, CSS3, SQL, Java, C
- **Web Frameworks/Libraries:** Django, Flask, FastAPI, OpenCV, py-Tesseract, React.js, Node.js, Next.js (Conceptual)
- **AI/Machine Learning:** LLMs (Mistral, GPT-4V/Gemini/LLaVA - Conceptual), AI Agents, RAG Pipelines, Transformers, Vision-Language Models, PyTorch, Hugging Face, OllamaLLM, LangChain
- **Databases:** MySQL, Vector Databases, PostgreSQL
- **DevOps & Tools:** Git, Docker (Conceptual), CI/CD (Conceptual), Cloud Deployment (Conceptual)
- **Core Competencies:** Full-Stack Development, RESTful API Design & Integration, UI/UX Principles, System Architecture, User Authentication, Data Management, Code Optimization, Problem Solving

Experience

Web Intern | Adukwu Research Group (ARG) | Bristol, UK

- Developed and maintained specialized web applications to support medical research initiatives, enhancing data visualization and accessibility for researchers.

- Conducted comprehensive reviews and strategic refreshes of existing employability websites, contributing to improved overall user experience and information clarity.
- Collaborated closely with research and leadership teams to translate complex scientific requirements into intuitive and functional web interfaces.

Software Engineering Intern | Aptech | Lagos, Nigeria April 2022 – April 2022

- Contributed to the maintenance and enhancement of web applications, ensuring optimal performance and user satisfaction.
- Participated in technical training and adapted quickly to new situations, demonstrating initiative in taking on new technical challenges.
- Utilized problem-solving capabilities to resolve technical challenges and prioritize workload efficiently.

Logistics Assistant | Synergy Beyond Borders | Lagos, Nigeria October 2023 – April 2024

- Managed complex logistics operations across international boundaries, consistently meeting diverse customer and delivery requirements.
- Collated and analyzed logistics-related data, submitting 5-7 daily reports to superiors, contributing to process improvement initiatives.
- Maintained robust communication channels with customers and internal departments, responding to over 15 customer queries daily to ensure timely goods transportation.

Service Point Assistant Intern | DHL NG | Lagos, Nigeria August 2023 – September 2023

- Quickly assimilated new skills and applied them to daily tasks, significantly improving efficiency and productivity.
- Successfully delivered on tasks within tight deadlines, demonstrating strong organizational skills.
- Managed the logistics of over 40 packages per day, accurately recording and reporting on Excel.

Key Projects

Full-Stack Healthcare Management System for African Countries | Python (Django), React.js, Node.js, PostgreSQL

- Architected and engineered a comprehensive full-stack healthcare management system for deployment in Nigeria and other African countries, facilitating critical medical operations and improving patient-doctor workflows.

- Developed and implemented robust RESTful APIs for secure user authentication, comprehensive patient and doctor data management, and intricate appointment scheduling (accepting, referring, canceling, confirming).
- Integrated advanced algorithms for real-time doctor availability checks and health calculation tools (e.g., BMI, stroke risk assessment).
- Built extensive administrative modules, including department, staff, appointment, and inventory management, improving operational efficiency.
- Contributed to front-end implementation (React.js, Node.js) to deliver an intuitive UI and optimized UX, enhancing user interaction across diverse medical workflows.

AI-Powered Air Travel Online Booking Platform | Python (Flask, LangChain), HTML, CSS, MySQL, OllamaLLM, Vector Database

- Developed a secure, full-stack online air travel booking platform enabling users to browse, book, and manage journeys within the UK with quick payment integration.
- Designed and implemented APIs for seamless data exchange and real-time updates of journey information through external integrations.
- Engineered and integrated LLMs and custom AI agents (utilizing OllamaLLM and a vector database) to provide personalized journey suggestions based on user preferences and automate booking tasks, significantly improving user engagement.
- Implemented a robust security framework with tiered administrative access and permission-based page views.

Medical AI Assistant (Mistral LLM) | Python, Mistral, LangChain

- Trained and fine-tuned a Mistral LLM to create a medical AI assistant for doctors, designed for integration into healthcare systems.
- Developed a Q&A capability, enabling the assistant to answer complex medical questions based on a curated dataset from reliable sources like PubMed.
- Utilized LangChain for robust integration and prompt engineering, ensuring reliable and context-aware medical responses.

Medical Image Classifier | Python, tensorflow, Hugging Face, Trained Model

- Developed an image classifier utilizing a trained model to accurately identify details within images with a 78.2% accuracy rate.

- Further specialized and trained the model to specifically identify ailments in medical images, such as X-rays, demonstrating a strong application of computer vision in healthcare.

Resume-Critiquer (LLM-Powered) | Python, LLMs

- Designed and built an LLM-powered resume critiquer that processes PDF or text files.
- Provides comprehensive feedback and tailored suggestions for resumes/CVs based on specific job roles, enhancing user application materials.

Education

Foundation Degree in Science: Foundation in Science and Engineering (Distinction)
University of West England Bristol, Bristol *April 2024 – August 2024*

GCSEs: Science (Distinction) Dansol High School, Lagos, Nigeria *September 2020 – June 2022*

Certificate of Distinction: Science (Chemistry) - Top 10 in Nigeria University of Waterloo, Ontario, Canada *April 2022 – May 2022*