

Usman Akinyemi

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EDUCATION

BTech Computer Science and Artificial Intelligence **Plaksha University, India** 2026
Software Engineering Program **Holberton, ALX Africa** Jan 2023 - 2024

EXPERIENCE

- Data Engineering Intern** - Python, Kafka, Docker **Dixon Lab, Plaksha University** May 2024 - July 2024
- Configured a secure **multi-broker Kafka cluster** with **SSL/TLS** and **SASL/SCRAM**, enhancing data security and compliance.
 - Configured **Kafka topics** to stream **FTP server files** and **MQTT data** (temperature, pressure, CPU/RAM) to **Cassandra**, **PostgreSQL**, and **local systems** using **Strimzi connectors** and Python consumer and producer.
 - Implemented **Kafka topics** for **seamless video streaming** from **IoT nodes** to **local systems**.
 - Researched and presented **optimal Kafka deployment strategies** to enhance system performance.
- SDE Intern** C, Linux, Bash, Mkosi, Git, Linux **Systemd (OpenSource)** Mar 2024 - April 2024
- Developed a **new unit test framework** with assertion macros which enhanced debugging by providing **detailed error reports** with file names, line numbers, and expression values upon failure, **improving issue identification** and **resolution**.
 - Updated approximately **22 existing unit test files** by modifying **403 lines of code** to incorporate the new assertion macros, resulting in **improved logging details** and enhanced **overall test coverage** and **debugging efficiency**.
 - Implemented the `--json` option for the `bootctl` status command and updated the **integration tests**, enabling machine-readable JSON output for **comprehensive bootloader status information**.
- SDE Intern** Python, Langchain, BeautifulSoup **Plaksha Tech Wizards** June 2023 - July 2023
- Built a **RAG application** with Python **Langchain**, fine-tuned LLMs, and used Langsmith for **model testing** to meet project goals
 - Created a **Python web scraper** to collect publication data for training the LLMs, improving the application's contextual accuracy.
- Web Dev Intern** ReactJs, MaterialUI **India Institute of Ikigai** Aug 2023 - Sept 2023
- Developed a **responsive website** for the organization, translating Figma designs into a polished, user-friendly platform.

PROJECTS

- SuperVaani** - TypeScript, LangGraph, MySQL, Flask **ILGC, Plaksha University** Jan 2024 - Present
- Developed a **RAG application** using **LangChain LangGraph** and a **text-to-SQL** model to efficiently handle queries from the Plaksha University community, leveraging **open-source LLM (Llama 3.1)** for **data privacy** and Langsmith for **model testing**.
 - Built a **chatbot interface** with React and TypeScript, and created **API endpoints** using flask for RAG model Integration.
 - Deployed the RAG application on **Linux server** using **HAProxy** for SSL, **Nginx** as a web server, and **Gunicorn** as a app server.
- OpenSource Contributor** Python, Docker **Open Science Initiative for Perfusion Imaging** Mar 2024 - Present
- Added a **command-line interface** to the existing 4D IVIM phantoms generator, with **detailed documentation** for usage.
 - Created a Python script for efficient reading and writing of NIfTI images, improving **data processing workflows**.
 - Dockerized** the `TF2.4_IVIM-MRI_CodeCollection` project and implemented a **GitHub Action** for **automated** Docker image building and **testing**, ensuring **consistent deployment** and a streamlined **CI/CD** pipeline.
- Dengue Prediction Model** **Machine Learning Project, Plaksha University** May 2024 - July 2024
- Developed a **dengue fever predictive model** with an **MAE of 25.31**, outperforming **78%** of models on DrivenData.
 - Applied **PCA** and **data preprocessing** (interpolation, normalization, log transformation), reducing model error by 5%.
- FrontEnd Developer** HTML, CSS, JavaScript, Fetch API **DesignIT Africa** July 2024
- Built a complete, interactive, and responsive website, translating Figma designs into a functional site with **custom blog** features.
 - Integrated **API endpoints** using **Fetch API** for real-time data retrieval and updates, enhancing website functionality.
- Personal Portfolio** NextJs, ReactJs, TypeScript **Portfolio Website** Aug 2024
- Created and deployed an interactive **personal portfolio website** using Next.js and TypeScript to showcase my projects and skills.

SKILLS

General-Purpose Programming: C, C++, Python, Bash Scripting, SQL
Web-Development: HTML, CSS, JavaScript, ReactJS, TypeScript, NextJS, Flask, RestAPI, MySQL.
ML/AI: Numpy, Pandas, Matplotlib, Scipy, PyTorch.
Tools/DevOps: Linux, Kafka, Git/Github, Github Actions, Nginx, Haproxy, Docker, Puppet.

NOTABLE MENTION

- Active Member **Official Python Documentation**
- Active **Microsoft** Student Ambassador
- 2023 **Emergent Technologist Millennium Campus Network**, United Nations Academic Impact
- 2021 **Hackathon Winner (1st Place)**, UniBadan Hacks