Favour Onyinye Ezike

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Profile

A detail-oriented Data Engineer with a strong background in full-stack software development. Proven expertise in designing, building, and optimizing robust, scalable data pipelines. Skilled in data acquisition (web scraping, API integration), preprocessing, and database management (SQL & NoSQL). Passionate about creating efficient, high-performance data systems that serve as the foundation for downstream analytics and machine learning applications.

Education

Birmingham City University   Sept. 2024 – Sept. 2025
MSc Artificial Intelligence   *Birmingham, United Kingdom*

Udacity   Jan. 2020
Nanodegree: Python Full Stack Development   *Online*

Federal University of Petroleum Resources Effurun   Feb. 2017
Bachelor of Engineering in Petroleum Engineering   *Delta, Nigeria*

Relevant Coursework

- Computing For AI
- Data Visualization
- Machine Learning
- Applied AI
- Deep Learning
- Impact of AI
- NLP/LLM
- SQL/NoSQL

Projects

Beyond Sentiment: Emotion detection in fibromyalgia forums Using LLMs (MSc Dissertation)
Python, LLM, OpenAI API, Prompt Engineering, GPT4, NMF, LDA, BERTopic, PyTorch, Numpy, Pandas, Puppeteer

- Conducted a large-scale analysis of 66,611 posts from a chronic illness forum to understand the emotional and supportive dynamics of patient conversations.
- Developed a novel, 12-category emotion and function taxonomy that provided a more clinically relevant insight than standard models.
- Engineered a prompt-driven LLM framework to classify posts, successfully identifying mixed emotional states (e.g., concurrent gratitude and despair) that traditional sentiment analysis overlooks.
- This project demonstrates a strong focus on understanding the real-world patient experience and building AI that can safely and accurately interpret sensitive clinical content.

Semantic Book Recommendation | *Python, LLM, LangChain, OpenAI, ChromaDB, Gradio, Numpy, Pandas* **April 2025**

- Built a smart book recommender system using Python and LangChain to process and embed book descriptions with OpenAI embeddings for semantic search.
- Developed a Gradio-based interactive UI to let users search for books by natural language, emotion, and genre, displaying results with covers and metadata.
- Implemented a ChromaDB vector database for fast similarity search and optimized performance with smart caching.
- Enabled users to discover books based on nuanced emotional and genre criteria, improving recommendation relevance.

Multilingual Voice Reporting | *Python, Streamlit, Microsoft Azure Cloud Services, Azure CLU*   **April 2025**

- Developed a Streamlit web app enabling users to record voice reports in any language directly in-browser, with no file upload needed.
- Integrated Azure Speech-to-Text for automatic transcription and Azure Translator for instant language detection and translation to English.
- Used Azure CLU for intent classification of issues and automated forwarding of processed reports to local councils via Power Automate webhook.
- Addressed language accessibility gaps for local government service delivery, empowering non-English speakers to report issues seamlessly.

Work Experience

Birmingham Women's and Children's NHS Foundation Trust
May 2025 – Present

MyChart Application Support Volunteer
Birmingham, United Kingdom

- Support patients and families with Electronic Patient Record (EPR) system navigation and MyChart account activation
- Provide technology literacy training to diverse patient populations on healthcare digital platforms.
- Operate with a high degree of empathy and professionalism in a sensitive healthcare environment, handling confidential patient information and supporting vulnerable individuals and their families.
- Demonstrate MyChart functions including proxy access, care records access, and clinical communication features.
- Promote digital healthcare adoption while maintaining strict patient confidentiality and professional boundaries.
- Apply customer care skills in sensitive healthcare environments, supporting vulnerable patients and families.

Turnkey Africa Limited
November 2019 – December 2024

Software Engineer
Nairobi, Kenya

- Designed and implemented microservices architecture for Life Insurance System using Java with Spring Boot, including key modules (Products, Quotation, Claims, Service Request, Agent Hierarchy) that have been deployed to multiple insurance companies across Africa.
- Built responsive user interfaces using Angular, integrated third-party payment gateways, and provided technical leadership through training junior developers and supporting clients in production environments.

Afrinvest West Africa
May 2022 – December 2024

Backend Engineer
Lagos, Nigeria

- Developed RESTful APIs using PHP with Laravel Framework for Optimus by Afrinvest platform, implementing core modules for financial products including Mutual Funds, Savings products, and US/Nigerian Stocks trading.
- Integrated external APIs (Paystack, Drivewealth, Zanibal), implemented robust security features, and designed system architecture diagrams while maintaining high code quality through extensive PHPUnit testing.

Andela
June 2019 – October 2019

Software Engineer Intern
Lagos, Nigeria

- Contributed to multiple internal products including Authors Haven and Travela using PostgreSQL, React.js, and Node.js, while effectively managing stakeholders with strong communication skills
- Implemented comprehensive testing using various frameworks (Mocha, Chai, Jest) and established CI/CD pipelines using Circle CI, Travis CI, and Jenkins with CodeClimate for quality assurance.

Technical Skills

Languages & Core Libraries: Python (Proficient), Pandas, NumPy, Java, PHP

ETL & Data Pipelines: Web Scraping (Puppeteer), REST API Integration, Data Cleaning & Preprocessing

Databases: SQL (PostgreSQL, MySQL, OracleDB), NoSQL (MongoDB, ChromaDB)

Software Engineering: Python (Flask, FastAPI), Java (Spring Boot), PHP (Laravel), JavaScript (Angular, React), Node.js, REST APIs, Microservices, SQL/NoSQL (OracleDB, MySQL, MongoDB, PostgreSQL), Docker, CI/CD, Git

Cloud & Tools: Microsoft Azure, Azure AI Services, Docker, Streamlit, Gradio, Jupyter, PyCharm, IntelliJ, PHPStorm, WebStorm, VS Code, Jenkins

Activities / Extracurricular

Contributor, Open-source projects including Jenkins, Mozilla Firefox, and Creative Commons
Participant, MSc AI Hackathon (ELAN Project), Birmingham City University
Participant, Microsoft EMBRACE (Midlands Regional Hackathon 2025), Microsoft
Participant, Research Summer School 2025, Birmingham City University
Volunteer, BCU Volunteering Day at FareShare West Midlands
Volunteer, Acorns Children's Hospice

Awards & Achievements

Silver Medal — PGXPO Summer 2025 Research Showcase (Birmingham City University, STEAMHouse). Recognised for MSc dissertation "Beyond Sentiment: Emotional Tone Analysis in Online Fibromyalgia Communities Using Large Language Models."