Favour Onyinye Ezike

🏠 Coventry, CV1 4NQ, United Kingdom

📞 +447502139953 ✉ ezikeonyinyefavour@gmail.com 💼 Onyinye Ezike ⬤ Onyimatics 🌐 My Portfolio

Profile

MSc Artificial Intelligence graduate skilled in building end-to-end AI systems with expertise in Large Language Models (LLMs), NLP, and data-driven applications. Experienced in developing pipelines for data collection, preprocessing, modeling, and evaluation. Adept in Python, PyTorch, HuggingFace, and Transformers, with strong foundations in clean coding and deployment-ready design. Passionate about applying AI to healthcare and real-world problem solving.

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 a dataset of over 66,000 posts scraped from a chronic illness patient forum to understand the emotional and supportive dynamics of patient conversations.
- Engineered and compared multiple LLM-based models (including fine-tuned models and few-shot prompting) to perform nuanced emotion detection, identifying specific patient states like 'Pain-Related Distress', 'Anxiety/Worry', and 'Gratitude'.
- Developed a novel methodology to demonstrate how traditional sentiment analysis tools fail to capture the mixed emotions present in clinical conversations, highlighting the need for more sophisticated, context-aware AI.
- This project demonstrates a strong focus on understanding real-world patient experience and a commitment to building AI that can safely and accurately interpret sensitive clinical content, directly aligning with the core mission of a Clinical AI Engineer.

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

AI & ML: Python, NLP, LLMs, Prompt Engineering, TensorFlow, Keras, Scikit-learn, Pandas, NumPy, LangChain, OpenAI API, CNNs, LSTM, Data Visualization, Transfer Learning

NLP: BERTopic, LDA, NMF, spaCy, scispaCy, HuggingFace

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

Other: Mixed-Methods Research, Digital Ethnography

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."