HONOUR-JESUS BEZALEEL

+(234) 9094160426 | bhonourjesus@gmail.com | GitHub | Linkedin | Medium | Portfolio

SUMMARY

I am a machine learning engineer and statistics graduate whose research focuses on natural language processing for low-resource languages, geo-NLP, probabilistic inference, and speech technologies. I am particularly motivated by the challenge of building computationally efficient and context-aware methods with applications in education and policy. My long-term goal is to advance multimodal, human-centred AI systems that extend the reach of machine learning to underrepresented languages and regions, contributing both theoretically and practically to the field.

EDUCATION

EKITI STATE UNIVERSITY, December 2019 – Sept 2024
B.Sc., Statistics
THESIS: Statistical analysis of unemployment and job placement in Nigeria
Advisor: O.A Akinyemi

RESEARCH PUBLICATIONS

- Bezaleel, H.-J. (2023). Impact of generative AI on beginner-level tech enthusiasts. In Generative AI Possibilities: A White Paper on Use Cases (pp. 12–18).
- Bezaleel, H.-J. (2024). *Statistical analysis of unemployment and job placement in Nigeria.* ResearchGate. https://doi.org/10.13140/RG.2.2.18487.65447
- Bezaleel, H.-J. (2025). *Bridging language barrier in education using TTS-ASR approaches for low-resource language in Nigeria.* Poster presented at **Deep Learning Indaba 2025**

RESEARCH EXPERIENCE

Data Science Nigeria
Machine Learning Researcher
Aug 2023 - Oct 2023

- Authored a research-oriented white paper, *"The Impact of Generative AI on Beginner-Level Tech Enthusiasts,"* contributing to emerging discussions on human-AI interaction and digital literacy in communities.
- Investigated novel applications of Geo-NLP and Geo-Semantics for extracting contextual insights from heterogeneous geospatial and textual data, collaborating with a cross-disciplinary team of geospatial analysts and machine learning researchers.
- Designed and co-developed a GIS-based visualization framework that mapped customer distributions and uncovered patterns in financial access, supporting evidence-based insights for financial inclusion research.
- Co-led the development of a speech-to-text financial advisory chatbot, applying natural language processing methods to improve accessibility of financial knowledge. The project reached over 100,000 users, demonstrating the translational impact of applied research.

OneCampus Academy
Data Science Intern
Mar 2022 - Jun 2023

- Investigated credit risk modeling techniques; deployed machine learning models that improved loan servicing efficiency by 20%, working closely with financial analysts to align research outcomes with practice.
- Developed a personality prediction framework using Python, SQL, and Streamlit, exploring applications in computational psychometrics to enhance customer profiling.
- Conducted experimental studies on fraud detection with recurrent neural networks in PyTorch, benchmarking performance against baseline classifiers and achieving significant improvements in predictive accuracy.

Hamoye.com
Data Science Intern
Jan 2022 - Apr 2022

- Collaborated with cross-functional teams to define project goals and design reproducible experimental pipelines for data analysis.
- Preprocessed multimodal datasets to ensure research-grade accuracy and consistency in model performance.
- Designed and evaluated a time-series forecasting model that improved predictive decision-making by 15%,

contributing to applied research in temporal modeling.

PROJECTS

AI-Powered Loan Servicing Automation

- Developed a machine learning model to automate loan servicing decisions, improving efficiency by 20%.
- Integrated decision trees and gradient boosting algorithms for credit decision optimization.
- Built a Streamlit interface for real-time deployment.

Fraud Detection System

- Designed and implemented an RNN-based fraud detection system using PyTorch.
- Improved fraud prevention measures and boosted KPIs by 20%.

Geo-NLP Solutions for Financial Insights

- Built solutions using Geo-NLP and NER to analyze geospatial and textual financial data.
- Created a GIS-based visualization tool for customer data mapping.

Speech-to-Text Chatbot for Financial Advice

- Contributed to developing an ASR chatbot for financial advice, serving 100,000+ users.
- Leveraged TensorFlow and HuggingFace for speech-to-text integration.

Bilingual ASR–TTS System for Hausa–English Learners

- Designed a synchronized interface integrating fine-tuned Wav2Vec 2.0 ASR and Tacotron2 + WaveGlow TTS; evaluated with 60+ students, improving Generative AI White Pape**r**

Local Language Data Transcription for ASR

- Contributed to the transcription of local languages for an ASR project funded by the Bill & Melinda Gates Foundation.
- Focused on data collection and testing for ASR systems in underserved languages.

TECHNICAL SKILLs

ML & AI: Deep Learning, Transfer Learning, Supervised & Unsupervised Models, Probabilistic Inference
NLP & Speech: HuggingFace, Transformers, Spacy, ASR/TTS, LangChain, LLM Fine-tuning
Geospatial Analysis: GeoPandas, Folium, Plotly, Contextily
Programming: Python, R, SQL
ML Frameworks: TensorFlow, PyTorch, Scikit-learn, Keras
Visualization & Tools: Power BI, Streamlit, Matplotlib, Git, Azure, Flask, Jupyter Notebook

LEADERSHIP AND VOLUNTEERING ACTIVITIES

- Microsoft Learn Student Ambassador (trained over 650 ambassadors, built the first Data Scientist Network at EKSU).
- Speaker & Volunteer: DevFest Ado, DataFest Africa, Women in Tech events.
- Mentor: Guided 300+ students in data science, NLP, and research applications.