Boluwaji Fagbuaro

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GitHub: https://github.com/Wajinimi/Machine\_Learning

# Profile

Aspiring Machine Learning Engineer with strong foundations in Artificial Intelligence, Data Science, and Business Strategy. Skilled in building and deploying end-to-end ML models across diverse domains including Natural Language Processing (sentiment analysis, text summarisation), Computer Vision (CNN for image classification, damage detection), and Predictive Modelling (house price prediction). Currently pursuing an MSc in Artificial Intelligence and Data Science at the University of Hull (completion: Dec 2025). Passionate about developing intelligent systems with real-world applications, such as toddler intent recognition and dialogue systems for caregiving robots.

# Education

University of Hull, UK
MSc in Artificial Intelligence and Data Science (Expected Dec 2025)
- Focus: NLP, Computer Vision, Predictive Analytics, Deep Learning.
- Dissertation: MAMA v1: Teaching Machines to Understand Young Children Through NLP Modelling and Intent Classification in Robotic Dialogue Systems.

Birmingham City University, UK
MSSc in International Business (2022)

# Key Projects

* Toddler Intent Classification & Response Generation (Ongoing)

- Designed and implemented an NLP pipeline to classify child speech intents into 20 fixed categories.
- Leveraged transformer-based models (DistilBERT) for intent recognition, combined with data augmentation strategies mimicking toddler language.
- Building dialogue management system for generating contextually appropriate responses.
- Independently collected and cleaned data for training the model.

* Sentiment Analysis (Twitter Data)

- Developed sentiment classification model on scraped Twitter data using NLP preprocessing, feature extraction, and supervised learning.
- Achieved high accuracy in classifying tweets into positive, negative, and neutral categories.

* Text Summarisation System

- Built extractive and abstractive text summarisation models using transformer-based architectures.
- Optimised for concise and context-preserving summaries of long-form documents.

* CNN for Image Classification (Animals Dataset)

- Implemented a Convolutional Neural Network from scratch to classify animal images.
- Tuned hyperparameters, applied regularisation techniques, and optimised for improved generalisation.

* Vehicle Damage Detection (Insurance Claims)

- Constructed CNN model to classify car damage images into multiple categories (crack, scratch, dent, glass shatter, tire flat, lamp broken).
- Worked with a dataset of 7,200+ images for training and testing.
- Conducted overfitting analysis and applied hyperparameter tuning.

* House Price Prediction (Real Estate Company)

- Built regression-based predictive model using feature engineering and ML algorithms (Linear Regression, Random Forest, XGBoost).
- Delivered insights and predictions to support a real estate company’s business decisions.
- Designed an interactive UI for model inference.

# Technical Skills

- Programming & Tools: Python, SQL, JavaScript, Git, React (for UI integration)
- ML & AI Frameworks: TensorFlow, PyTorch, Scikit-learn, Hugging Face Transformers, OpenCV
- Data Handling: Pandas, NumPy, Matplotlib, Data Cleaning, Feature Engineering
- Specialisation Areas: Natural Language Processing, Computer Vision, Deep Learning, Predictive Modelling
- Cloud & Deployment (in progress): AWS, Google Cloud ML

# Leadership & Experience

- Led 2 workshops for AI enthusiasts, introducing practical ML concepts and hands-on projects.
- Collaborated with real-world clients (real estate company) to deliver applied ML solutions.
- Experienced in independently collecting, cleaning, and preprocessing datasets for custom models.

# Certifications (Planned & In Progress)

- Google Cloud Machine Learning Engineer (Planned – Sep 2025)
- AWS Certified Machine Learning – Specialty (Planned – 2025)

# Additional Strengths

- Strong academic and practical foundation in AI/ML research.
- Cross-disciplinary background (AI + Business) with skills in problem-solving, strategy, and technical execution.
- Effective communicator, able to bridge technical solutions with real-world business applications.