

# AMAH A. Daniel

AI/ML Engineer | Data Scientist

Data Science and Machine Learning professional with 5+ years of experience in predictive modeling, data analytics, and deploying production-ready ML solutions. Proficient in Python, R, SQL, and cloud technologies (Azure/GCP), with a proven track record of driving business growth through advanced analytics and AI-driven solutions. Passionate about solving complex problems through data science and AI, with a focus on fairness, efficiency, and bias handling in machine learning models. Active contributor to the data science community through published research and open-source ML applications.

Seeking a challenging role in Data Science, Machine Learning, or AI Engineering to leverage my expertise in building scalable AI/ML solutions and driving innovation on a global scale.

## Professional Experience

### 2023 - Data Analyst (Customer Behavior Focus)

#### Present Wema Bank PLC

- Architected end-to-end customer journey analytics system using Python, SQL, and Power BI to analyze multi-channel interaction data, resulting in 25% reduction in digital channel drop-off rates and 15% increase in mobile app engagement
- Developed and deployed machine learning models for customer segmentation and behavior prediction, driving 20% improvement in targeted marketing campaign effectiveness through data-driven personalization
- Engineered automated reporting pipeline using R, SQL, and Power BI that reduced manual analysis time by 40% while providing real-time insights into customer interaction patterns
- Spearheaded cross-functional initiatives between product and marketing teams to optimize digital banking experience, implementing A/B testing frameworks that identified and resolved key user pain points
- Built comprehensive user behavior tracking system integrating web analytics, transaction data, and customer feedback, enabling granular analysis of customer journeys and precision in targeted interventions
- Led implementation of real-time monitoring dashboards for customer engagement metrics, facilitating proactive decision-making and contributing to 15% improvement in overall digital commercial performance

### 2021 - Data Analyst (Customer Behavior Focus)

#### 2023 Polaris Bank LTD

- Pioneered customer segmentation strategy using advanced clustering techniques and behavioral analysis, driving 30% increase in conversion rates through targeted engagement
- Reduced operational costs by 50% through intelligent automation of data collection and analysis processes, streamlining reporting workflows while improving accuracy
- Integrating Grafana to create real-time monitoring system for customer journey analytics, enabling proactive intervention strategies that improved digital engagement metrics by 15%.
- Built customer lifetime value prediction model using survival analysis and machine learning techniques, enabling targeted retention strategies that improved retention by 20%
- Developed recommendation engine using collaborative filtering and content-based approaches, increasing cross-sell success rate by 30%
- Created interactive Power BI dashboards with drill-down capabilities, enabling stakeholders to analyze customer behavior patterns across multiple dimensions
- Implemented feature store using Feast to standardize feature engineering across multiple ML models, improving model development efficiency by 40%.
- Established automated reporting ecosystem with R, R Markdown and SQL that reduced manual analysis time by 50% while enhancing the accuracy of daily customer interaction insights

### 2020 - Data Analyst

#### 2021 SurveyPlus LTD

- Spearheaded market research initiatives using advanced analytics to improve targeting accuracy by 25% through sophisticated demographic and behavioral segmentation
- Developed executive dashboards in R Shiny that transformed raw data into actionable insights, driving strategic decision-making across marketing, sales, and product teams
- Implemented rigorous data validation framework for agent onboarding processes, preventing fraudulent customer registrations and saving significant compensation costs while improving data integrity by 15%
- Implemented automated monitoring systems for campaign outcomes, reducing reporting time by 40% while maintaining GDPR and NDPR compliance

### 2020 - Info. Technology / Teaching and Advice

#### 2020 Salem Secondary School

- Designed and delivered comprehensive curriculum in programming and data analysis, incorporating real-world applications that resulted in 85% of students successfully completing end-of-term projects in web development and basic machine learning
- Mentored and guided 40+ students through hands-on projects in Python programming and data analysis, fostering analytical thinking and problem-solving skills through practical applications

## Highlight Projects

### ML & Computer Vision

**Drowsiness Detection:** Developed a realtime system using OpenCV and MediaPipe to detect driver drowsiness, achieving 95% accuracy.

**Brain Tumor Detection:** Built a deep learning model for brain tumor detection from MRI scans, leveraging Labeling and YOLO v5.

**Image Segmentation App:** Created an app for rectise object detection and segmentation using YOLO v8.

### Generative AI

**IELTS Writing Task Generator:** A GPT-based model to generate IELTS writing tasks, automating task generation, performance evaluation and report

**CV/Cover Letter Reviewer:** AI-powered app for resume and cover letter feedback using Cohere's command-r Chat API.

**Automated EDA and RAG:** A tool for automated exploratory data analysis and report generation, integrating RAG.

### MLOps

**Ether Streaming Dashboard:** Designed a real-time dashboard for monitoring Ethereum transactions using ML models and cloud infrastructure.

**Orchestrating ML Development:** Implemented MLOps pipelines for salary prediction using ZenML and MLFlow, ensuring reproducibility and scalability.

## Personal Info

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## Publications & PoCs

[Blog](#) [RPubs](#) [Tableau](#) [Kaggle](#) [Streamlit](#)

## Technical Skills

### Core ML/AI

- Deep Learning & ML Frameworks:** TensorFlow, PyTorch, Scikit-learn, tidymodels, Vetiver, XGBoost, etc
- Computer Vision & Image Processing:** OpenCV, MediaPipe, YOLO, Image Segmentation/Detection
- Natural Language Processing & GenAI:** GPT-based models, LangChain, Cohere Command-R, LLaMA, Chain of Thought (CoT), OpenAI API

### Engineering

- MLOps & Deployment:** ZenML, MLFlow, Apache Airflow, Prefect, Mage, Feature Store (Feast),
- Cloud & Infrastructure:** Azure ML, Google Cloud Vertex AI, Comntainerization, API Dev.
- Data Engineering & ETL:** dbt, SQL, Apache Airflow, Python ETL libraries, Pipeline & Validation Frameworks

### Tools & Platforms

- Development & Version Control:** Python, R, Git, GitHub, CI/CD, Airflow
- Visualization & Reporting:** Power BI, Tableau, GG-Plot, Seaborn, R Markdown, Shiny, Grafana
- Web Dev:** Django, Flask, Streamlit, REST APIs
- Database & Query Languages:** SQL, NoSQL, Google Apps Script, ETL Workflows (dbt, DAGs), Snowflake

## Education

### 2014 - Obafemi Awolowo University, Ile-Ife, Osun State

Bachelors | Applied Statistics; (4.39/5.0)

## Professional Certificates

### 2024 MLOps

**DataTalks**

### 2024 AI Engineer (Associate)

**Microsoft**

### 2024 Data Scientist

**DataCamp**

### 2023 Data Analytics

**Google**

### 2022 Data Analytics in Banking

**CIBN**

### 2021 Data WareHousing

**Udemy**

### 2021 Azure Fundamentals

**Microsoft**

## Publications & Research

2024 George, O., **Amah, D.**, & Emmanuel, J. (2024). Towards fairness and efficiency: A low-weight computer-aided model for melanoma detection with racial bias handling. In ICRS-STI 2024: Book of Abstracts (pp. [33]). Covenant University.

2018 Evaluation of Household Age Data in the Nigerian Demographic and Health Survey, 2013.

2017 Mass Media: Assessing Fertility Rates with Family Planning, A case study of Ilesha, Osun State