

Oluseun Morenikeji Olulana

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SUMMARY

Data Science and AI professional with 4+ years of combined experience in software engineering, machine learning, and LLM-based system design. Skilled in developing fairness-aware AI models, scalable APIs, and intelligent applications using Python, PyTorch, and modern web technologies. Strong foundation in mathematics and algorithmic reasoning with proven experience teaching, mentoring, and leading technical teams.

EDUCATION

Ph.D. in Data Science (Expected 2026) Worcester Polytechnic Institute, Worcester, MA
Focus: Human-Centered AI, Large Language Models, Fairness in Ranking Systems
M.Sc. in Pure & Applied Mathematics — African University of Science & Technology, Abuja, Nigeria
B.Sc. in Mathematics — University of Agriculture, Abeokuta, Nigeria

TECHNICAL SKILLS

Languages: Python, Java (Android), PHP, SQL
Frameworks & Tools: FastAPI, PyTorch, TensorFlow, Pandas, NumPy, Matplotlib, Git
AI/ML: LLM APIs (Gemini, Llama, OpenAI), Fairness Modeling, Prompt Engineering, NLP, Deep Learning

INDUSTRY EXPERIENCE

Technical Support Engineer — Microsoft 365 (Tek Experts) Lagos, Nigeria (2019–2022)
T4 Trainer and First Point of Contact for Frontline Engineers

- Delivered enterprise-level support for Microsoft 365 and Exchange Server deployment and integration, leveraging SCCM, Intune, Group Policy, and the Office Deployment Toolkit for large-scale configuration, activation, and mail service management.
- Trained and mentored junior engineers in debugging techniques, system architecture, and structured problem-solving to strengthen technical proficiency and independent troubleshooting skills.
- Automated internal workflows improving ticket triage speed and response accuracy.

Software Developer — DiamondScripts Ltd. Lagos, Nigeria (2018)
Backend and Android Developer

- Built Android and web apps for retail and logistics clients.
- Designed and deployed backend services using PHP and MySQL for admin dashboards.

Freelance Software Developer Remote (2018–Present)
Full-Stack and AI Application Developer

- Delivered Android, web, and AI-based projects for global clients, integrating REST APIs and ML models.
- Developed and maintained websites including continentalgeneticsltd.com.

RELEVANT PROJECTS

FAIRER-TABLLM — LLM-Based Fair Re-Ranking Framework WPI (2024–Present)

- Designed an LLM-driven system for fairness-aware re-ranking of tabular data via structured prompting, systematically benchmarked against nine comparable fairness and ranking strategies.
- Built Python-based visualization tools for fairness metrics and ranking evaluation, enabling quantitative and visual analysis of fairness–utility trade-offs in ranked data.
- Combined prompt engineering and statistical modeling to improve transparency in AI decisions.

Fair Ranking with Missing Protected Attributes WPI (2025)

- Developed LLM-based methods for fair re-ranking without demographic data, achieving fairness comparable to inference-based approaches.

PetMatch — Image Matching with Autoencoders WPI (2023)

- Built and trained a convolutional autoencoder to match lost and found pet images.
- Designed a Flask-based interface for real-time image comparison and retrieval.

Concept-Drift Detection via Multi-Task Learning WPI (2022)

- Implemented PyTorch models for multi-task drift detection and model reliability monitoring.

Android Scanner App — Freelance Developer Lagos, Nigeria (2018–2019)

- Developed an Android app integrating RFID sensors and REST APIs for industrial tracking.

RESEARCH & TEACHING EXPERIENCE

Research Assistant – Fairness in AI, WPI (2022–Present)

- Conducted research on fair ranking, large language models, and ethical AI systems.
- Co-authored papers on fairness-aware learning and evaluation of LLM-based reranking.

Teaching Assistant – Introduction to Data Science (Undergrad & Grad), WPI (2022–Present)

- Supported instruction in Python programming, data preprocessing, and model evaluation.
- Conducted office hours and code reviews, mentoring over 50 students each semester.

Technical Mentor – AGSA, NSBE, and ACE Mentorship Programs (2023–Present)

- Taught first-year Data Science students topics in Python, AI ethics, and ML workflows.
- Mentored hackathon teams at *AfriDev 2025*, guiding applied AI projects for social impact.

PUBLICATIONS

- O. Olulana et al. *Can Large Language Models Rank Tabular Data Fairly?* Accepted at IEEE International Conference on Semantic Computing (ICSC) 2026.
- O. Olulana et al. *Hidden or Inferred: Fair Learning-to-Rank with Unknown Demographics.* AAAI/ACM AIES 2024.
- A. Pietrick, O. Olulana et al. *Are Fair Learning-to-Rank Models Really Fair?* IEEE URTC 2022.
- O. Olulana, G. Degla. *Quadratic Forms with Applications.* Master's Thesis, AUST, 2013.

HONORS & CERTIFICATIONS

- **NSF Student Travel Award (2024)** – AAAI/ACM AIES Conference.
- **African Development Bank (AfDB) Scholarship** – For excellence in science and engineering education.
- **Microsoft LEAP Hackathon (2019)** – Certificate of Participation, Lagos, Nigeria.
- **Deep Learning Nanodegree** – Udacity.