

OLUWATOYIN OLAWALE AKADIRI

Data Analyst | Big Data Analytics and AI Researcher

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RESEARCH INTERESTS

Health AI; deep learning; reinforcement learning for clinical decision support; agentic and LLM-based healthcare systems; multimodal learning across imaging, EHR, wearables, genomics, and multi-omics; trustworthy and privacy-preserving AI; federated learning; explainability; fairness; data reliability; anomaly detection.

RESEARCH STATEMENT

My research focuses on developing trustworthy, privacy-preserving, and generalizable AI systems for healthcare. I am interested in combining deep learning, federated learning, multimodal clinical data, agentic and LLM-based systems, and reliable data infrastructure to create models that are accurate, explainable, safe, and practical. My work examines how AI can support clinical decision-making and data collaboration while preserving privacy, reducing bias, and maintaining data integrity.

EDUCATION

M.S. in Big Data Analytics

Bay Atlantic University, Washington, D.C. - In Progress, Expected 2027

Relevant coursework: Machine Learning, Deep Learning, Data Mining, Distributed Systems, Statistical Modeling.

Master of Business Administration

Bahcesehir Cyprus University, Nicosia, Cyprus - 2022

Thesis: Customer Engagement on Social Media and Its Impact on Customer Behavior in Nigeria.

B.Sc. in Political Science

Adekunle Ajasin University, Akungba-Akoko, Nigeria - 2016

TECHNICAL SKILLS

- Deep learning: PyTorch, TensorFlow, Keras; CNNs, RNNs/LSTMs, Transformers, attention models, autoencoders.
- Agentic AI and LLMs: LangChain, LlamaIndex, OpenAI/Anthropic APIs, RAG pipelines, tool-using agents, prompt engineering, LoRA/PEFT fine-tuning concepts.
- Programming and analytics: Python, NumPy, Pandas, scikit-learn, R, SQL, Spark, Git/GitHub.
- Healthcare and multimodal data: EHR analytics, medical-imaging pipelines, wearable/biosignal data, multi-omics integration, liquid-biopsy analytics.
- Trustworthy AI: federated learning, differential privacy, model explainability, bias/fairness auditing.
- Cloud and BI: AWS, Google Cloud, Docker, Tableau, Power BI, Excel, Google Sheets.

RESEARCH EXPERIENCE

Graduate Researcher - Big Data Analytics and Health AI | Bay Atlantic University | Aug 2024 - Present

- Designing privacy-preserving deep learning frameworks for federated clinical data, enabling simulated multi-hospital model training without raw data exchange.
- Co-developed Collaborative Intelligence Databases (CID) for secure multi-source health data management, integrating AI-based access control with predictive analytics.
- Built the Resilient Dataflow Intelligence (RDI) framework for proactive anomaly anticipation in cloud databases using LSTM- and autoencoder-based detection concepts.
- Investigating agentic LLM systems that combine retrieval-augmented generation with tool use for clinical documentation and multi-omics interpretation.

Graduate Researcher - Business and Data Analytics | Bahcesehir Cyprus University | 2022 - 2024

- Applied statistical modeling and machine learning to organizational datasets.
- Prototyped predictive models and BI dashboards; supported student projects in data visualization and quantitative analysis.

PEER-REVIEWED PUBLICATIONS

1. Akadiri, O. O., Babatunde, O., Jamiu, A. A., Igbape, O. R., Samson, B. O., and Anyaehie, C. F. (2025). Collaborative Intelligence Databases (CID): Harnessing AI for Privacy-Preserving Multi-Source Data Management. Global Journal of Engineering and Technology Advances, 24(3), 406-416. <https://doi.org/10.30574/gjeta.2025.24.3.0289>

2. Akadiri, O. O., Igbape, O. R., et al. (2025). Resilient Dataflow Intelligence (RDI): A Proactive AI Framework for Anomaly Anticipation in Cloud Databases. *Global Journal of Engineering and Technology Advances*, 24(3), 314-327. <https://doi.org/10.30574/gjeta.2025.24.3.0282>
3. Akadiri, O. O., Nzereogu, V. C., et al. (2025). AI-Driven Liquid Biopsies and Microbiome Dynamics: Revolutionizing Cancer Monitoring through Multi-Omics Integration. *International Journal of Biological and Pharmaceutical Sciences Archive*, 10(1), 206-224. <https://doi.org/10.53771/ijbpsa.2025.10.1.0070>
4. Akadiri, O. O., Ogunniran, A. O., et al. (2025). Metamaterials and Smart Structures: Leveraging AI for Design, Optimization and Adaptive Engineering Solutions. *Global Journal of Engineering and Technology Advances*, 24(3), 115-139. <https://doi.org/10.30574/gjeta.2025.24.3.0260>
5. Akadiri, O. O., Ohaka, A. M., et al. (2025). The AI-Driven Energy Surge: A Comprehensive Review of Sustainable Power Solutions for Data Centers. *Global Journal of Engineering and Technology Advances*, 24(3), 328-344. <https://doi.org/10.30574/gjeta.2025.24.3.0279>
6. Akadiri, O. O., Dosunmu, O. F., et al. (2025). A Comparative Study of Data Visualisation Techniques for Effective Decision-Making in Business Intelligence. *Path of Science*, 11(8), 1058-1068. DOI to be added after verification from the publication record.
7. Akadiri, O. O., Ohaka, M., Esekiele, J. O., Atoyebi, T. O., Atumah, P. E., Jimoh, N. R. A., and Ibrahim, I. O. (2025). GeoAI at the Forefront of Climate Action: Mapping Mitigation and Adaptation with Artificial Intelligence. *Global Journal of Engineering and Technology Advances*, 24(2), 217-234. <https://doi.org/10.30574/gjeta.2025.24.2.0248>

MANUSCRIPTS UNDER REVIEW / IN PREPARATION

- Machine Learning Approaches for Early Detection of Mental Health Disorders Using Wearable Devices and Big Data Analytics - In preparation.
- Enhancing Mental Health Outcomes Through AI-Driven Predictive Analytics: A Review of Applications in Neuroscience and Substance Abuse Prevention - In preparation.
- AI-Driven Cybersecurity Analytics: Predictive Threat Detection and Automated Response in Critical U.S. Infrastructure - In preparation.
- AI-Enabled Energy Demand Forecasting with LSTM Neural Networks on Smart Grid Data - In preparation.
- ChatGPT and the Future of Generative AI: Architecture, Limitations, and Advancements in Large Language Models - Under review.

WEB OF SCIENCE REVIEWER RECOGNITION

Peer-review service record: 6 peer review records of 6 manuscripts, as shown in Web of Science reviewer recognition records supplied August 4, 2026.

1. Jul 18, 2026 - Data Science Journal: KadiAssistant: A conversational AI Agent for information retrieval in Kadi4Mat.
2. Mar 16, 2026 - International Journal on Data Science and Technology: Artificial Intelligence Adoption in Academic and Engineering College Libraries of Gujarat, India (2020-2026): A State-Level Review.
3. Jan 20, 2026 - Journal of Disease and Global Health: Spatial Modeling of Agrochemical Exposure and Chronic Disease Risk Among U.S. Farmers: A Review of GIS-Based Epidemiological Approaches.
4. Dec 17, 2025 - International Journal on Data Science and Technology: Divide and recombine approaches for fitting logistic regression to large-scale health surveillance data: application to diabetes risk prediction in BRFS.
5. Oct 27, 2025 - Academia Environmental Sciences and Sustainability: Analysis of AI Models in Weather Forecasts - A Leap Towards a Robust Future.
6. Sep 23, 2025 - Academia Environmental Sciences and Sustainability: AI-Driven Greenhouse Gas (GHG) Emission Clustering and Forecasting.

PRESENTATIONS

- Resilient Dataflow Intelligence (RDI): A Proactive AI Framework for Cloud Anomaly Detection - Bay Atlantic University, Washington, D.C. - 2024.

AWARDS

- Certificate of Academic Excellence - Bay Atlantic University - 2025.
- Certificate of Achievement - Bay Atlantic University - 2025.
- Appreciation Award for volunteer service - IEEE CIC / CogMI / TPS - 2024.

TEACHING AND MENTORING

Tutor and Peer Mentor | Bahcesehir Cyprus University | 2022 - 2024

- Tutored Business Analytics and Research Methods; guided students in Python, Power BI, and Excel for data projects.

ACADEMIC SERVICE AND PEER REVIEW

- Peer reviewer: Data Science Journal (CODATA); International Journal on Data Science and Technology; Journal of Disease and Global Health; Academia Environmental Sciences and Sustainability; IKPress journals.
- Web of Science reviewer recognition: 6 peer review records of 6 manuscripts across 2025-2026.
- Conference volunteer: IEEE CIC / TPS / CogMI 2024-2025; IEEE PES Energy and Policy Forum 2025; Coleridge Initiative 5th National Convening 2025; DevFest DC 2025.

APPLIED / INDUSTRY EXPERIENCE

Data Analytics and Insights Intern | Medicidiom | 2026

- Analyzed 2,500+ healthcare-industry lead records and built Tableau dashboards with KPI scorecards, filters, source and owner analysis, engagement views, and a Top-50 prioritization queue.
- Developed a lead-scoring framework based on data completeness, engagement, and outreach readiness.
- Conducted competitor pricing and market intelligence analysis and built LinkedIn performance reporting.
- Used SQL, Python, Excel, Google Sheets, and Tableau for data preparation and reporting.

Junior Business Developer | SUNEV Plast | 2023 - 2024

- Qualified 80+ prospects weekly using CRM filters and market segmentation; supported outreach sequences and pricing intelligence.

Senior Liaison Officer | MADUCARE Inc. NGO | 2019 - 2024

- Supported community health and education programs through standardized reporting templates, stakeholder mapping, referral procedures, outreach tracking, and program coordination.

MEDIA AND PUBLIC OUTREACH

- Researcher Seeks Global Standard to Strengthen Data Privacy - Punch Newspaper - 2025.

CERTIFICATIONS

- Google Data Analytics Professional Certificate - Coursera/Google - 2024.
- MySQL for Data Analytics - TechLink Global Learning Institute - 2025.
- Excel for Data Analytics - TechLink Global Learning Institute - 2025.

PROFESSIONAL MEMBERSHIPS

- IEEE Member - 2022 to Present.
- Africa Connect (GPI) - 2024 to Present.

LANGUAGES

English (fluent); Yoruba (native); Igbo (conversational).

REFERENCES

Available on request.