Opeyemi Peter Ojajuni, PhD

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Summary

Results-driven data professional with strong programming skills in Python and expertise in data engineering, full-stack data science project delivery, and cloud-based AI solutions. Certified as an AWS AI Practitioner, IBM AI Practitioner, and AWS Cloud Practitioner, with hands-on experience in research, development, and scalable model deployment. Known for creative and agile problem solving, effective communication, and stakeholder engagement. Demonstrates strong leadership, prioritization, and collaborative teamwork in fast-paced, cross-functional environments.

Experience

- **Southern University and A & M College - Virtual Reality (VR) Jags Laboratory** *Feb 2024 - Present*
  Postdoctoral - Research Scientist / Data Scientist Baton Rouge, LA
  - Led the architecture and design of ICLERT (Immersive Crisis Leader Emergency Response Training): an AI/VR immersive crisis-management simulator, a novel solution designed to revolutionize crisis management training to improve decision making.
  - Designed and executed feasibility studies for immersive VR-based cognitive training, integrating experimental and observational datasets to evaluate intervention impact.
  - Developed automated ETL pipelines in Python to process survey data by aggregating Likert scale responses and applying dimensionality reduction, reducing the preprocessing time by 30% and allowing standardized, reproducible pipelines for scalable machine learning.
  - Performed Principal Component Analysis (PCA) using Scikit-learn on 29 VR-exposure survey variables to extract 5 components, improving classifier accuracy by 8%.
  - Built and evaluated ML models (SVM, XGBoost, Random Forest, KNN) to classify cognitive skill levels in engineering students with 95.18% accuracy, informing targeted interventions through feature importance analysis and curriculum alignment.
  - Communicated model performance insights and key feature drivers to cross-functional stakeholders, identifying top predictors to inform targeted, data-driven decision making and VR intervention strategies.
- **Amazon.com** *June 2023 - Sept 2023*
  Data Scientist Intern, Mechatronics and Sustainable Package team Seattle, WA
  - Performed large-scale temporal and sensitivity analysis on 1M+ historical transaction and logistics using statistical and ML models, improving packaging risk detection and simulation robustness by 40%.
  - Developed a data transformation and enhancement framework using custom probability density functions and empirical distribution fitting, improving the simulation of packing time and robustness to cost variability by 40% and supporting scalable risk modeling.
  - Developed a ML model to predict the storage capacity requirements for automated sorting systems, allowing 15% to reduce costs through scenario-based storage capacity planning while preserving temporal variability.
  - Collaborated with stakeholders across engineering, operations, and product teams to align risk modeling initiatives with business and sustainability objectives, uncovering key drivers through large-scale analysis, and providing clear actionable insights.
- **Southern University and A & M College - Virtual Reality (VR) Jags Laboratory** *Aug 2018 - Dec 2023*
  Graduate Research Assistant Baton Rouge, LA
  - Performed EDA using Python (Pandas, Matplotlib) and built Power BI dashboards to analyze and visualize 20+ years of enrollment and graduation, uncovering trends and patterns that informed academic policy and student retention decision-making.
  - Applied time series forecasting (ARIMA) on graduation and workforce data, revealing a 19.5% projected shortfall in minority construction management graduates needed to meet Louisiana's 2030 goals.
  - Built and deployed a Streamlit web app using supervised learning (Random Forest) to predict high school student performance from UCI dataset (1,044 records), achieving 73.2% test accuracy and enabling real-time STEM risk intervention.
  - Developed and benchmarked a facial-based driver drowsiness detection technique, leveraging a comparative analysis of machine learning models (CNN, SVM, and Random Forest) to achieve a peak accuracy of 97.83% with the CNN model; implemented using Python, OpenCV, Dlib, and TensorFlow.
- **IBM Data Science Academy** *Dec 2021 - Dec 2021*
  Data Scientist Remote
  - Built ETL pipelines to transform insurance claims data, enabling accurate fraud detection.
  - Developed and trained a Random Forest model using Scikit-learn to classify fraudulent claims.
  - Deployed the real-time fraud detection model on IBM Watson Machine Learning for production use.

EDUCATION

- **Southern University and A & M College, USA** *Aug 2018 - Dec 2023*
  PhD in Science and Mathematics Education (Major: Education Technology), Advisor: Dr. Albertha Lawson USA
- **University of Surrey, UK** *Sep 2013 - Sept 2014*
  MSc in Mobile and Satellite Communication, Advisor: Dr. Fabien Heliot UK
- **Covenant University, Nigeria** *Sep 2007 - July 2012*
  B.Eng in Computer Engineering Nigeria

SKILLS

- **Programming Languages:** Python, R, C#, JavaScript , MATLAB, SPSS, SQL.
- **Databases:** SQL, MongoDB, InfluxDB, Postgres
- **Packages and Libraries:** NumPy, SciPy, Pandas, TensorFlow, Keras, PyTorch, PyTorch, SciKit-Learn, PySpark, Tableau, AWS QuickSight, Plotly, Matplotlib, Seaborn, AWS SageMaker, Amazon BedRock, Apache Spark, Hadoop, PySpark, Apache Kafka, Apache Airflow, BigQuery.
- **General Tools and Platforms:** Linux, Git, Django, Flask, Streamlit, Shell Scripting.
- **Artificial Intelligence and Machine Learning:** Classification, Regression, Dimensionality Reduction, Structured Prediction, CNN and Anomaly Detection. Expertise in Gen-AI and Deep Learning - LLMs, LVMs, SLMs, RAG, Fine-Tunning, Prompt-Tunning, Prompt Engineering, Langchain, LlamaIndex,Haystack, Multi-Agent frameworks, CrewAI, LangGraph.
- **Statistical Modeling:** Time Series Forecasting,Factor analyis, A/B Testing, Experimental Design, EDA, Time Series (ARIMA), T-Testing.

CERTIFICATIONS

- **Amazon Web Service (AWS) Certified AI Practitioner** *July 2025*
  Issued by Amazon Web Services (AWS) Training and Certification [LINK]
  ◦ Developed expertise in AI, ML, and generative AI concepts, methods, and strategies—both generally and on AWS. Demonstrated ability to select appropriate AI/ML technologies for specific use cases and apply them responsibly. Familiar with the AWS global infrastructure, core services and use cases, pricing models, and the AWS Shared Responsibility Model for security and compliance.

- **AWS Educate Machine Learning Foundations** *June 2025*
  Issued by Amazon Web Services Training and Certification [LINK]
  ◦ Developed expertise in fundamental machine learning concepts and in applying the machine learning pipeline to solve business problems.

- **IBM Artificial Intelligence Practitioner** *Jan 2022*
  Issued by IBM [LINK]
  ◦ Developed expertise in AI concepts and technologies; demonstrated proficiency in AI technical topics and design thinking, with the ability to apply AI using relevant open-source tools to real-world scenarios, including educational applications.

- **Enterprise Design Thinking Practitioner, Enterprise Design Thinking - Team Essentials for AI** *Dec 2021*
  Issued by IBM [LINK] [LINK]
  ◦ Developed expertise in Enterprise Design Thinking to solve complex real-world problems and design responsible, people-centered AI, leveraging design, empathy, ideation, user-centered methods, UX, and user research.

- **AWS Certified Cloud Practitioner** *April 2021*
  Issued by Amazon Web Services Training and Certification [LINK]
  ◦ Developed foundational expertise in IT services and their application in the AWS Cloud; demonstrates cloud fluency and core AWS knowledge, and can identify the essential AWS services required to set up AWS-focused projects.

- **Cisco Certified Network Associate Routing and Switching (CCNA Routing and Switching)** *March 2011*
  Issued by Cisco [LINK]
  ◦ Developed expertise in network fundamentals, LAN switching, IPv4/IPv6 routing, WAN technologies, infrastructure services, security, and network management.