Olusegun Omotunde

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Analytical problem solver and passionate data professional with strengths in generative artificial intelligence, data engineering and machine learning seeking to solve complex real-world problems and make data-guided decisions.

Work Experience

Data Scientist, Analytics Team, Dream Chase Technology *April 2023 – Present*

- Developed a **chatbot** utilizing **google Med-PaLm large language models (LLM) with Langchain and RAG**, aimed at improving the customer search experience for a healthcare provider client. **Utilized Vertex AI** and **Kubernetes** on **gcp for deployment.**
- Created a **vector database** to store vector embeddings of prompts, enhancing search accuracy time.
- Conducted **text parsing** and generated unstructured data for all attributes in the dataset.
- Implemented **semantic and metadata search** capabilities by enabling self-query retrieval based on metadata descriptions.

Graduate Teaching & Research Assistant, Finance Department,
Bowling Green State University *August 2021 – December 2022*

- Automated the collection and daily updating of financial data, including YTD total returns for a wide range of stock tickers (e.g., VGT, VHT, VOX, AAPL) from sources such as Bloomberg and Yahoo Finance. Employed **advanced web scraping techniques, Python scripting, Selenium automation, and REST APIs**, ensuring a continuous flow of critical financial data to support analytical research and academic projects.
- Utilized and leveraged **advanced Excel functions and pivot tables** to perform data munging and cleaning on faculty and alumni survey data. Crafted comprehensive reports detailing preferences in programming languages and applications for teaching and current usage. Tailored data analysis for specific groups, including post-2015 alumni and faculty, providing valuable research insights.
- Supported Professor through reviewing course material, evaluating exams, conducting office hours, tracking grades, and analyzing finance datasets in **Excel and R to** identify trends.

Financial Data Analyst, Payables Unit, Finance Department,
Nigerian Airspace Management Agency *January 2020 – December 2020*

- Applied advanced quantitative analysis and machine learning techniques to the analysis of payables data using **Python and SQL**. Detected trends and identified peak payment cycles, resulting in a significant reduction in overtime costs across the 36 states in Nigeria and for top vendors. This initiative led to a projected 8-10% cost savings.
- Designed and built custom dashboards to extract and visualize key financial metrics, enhancing data accessibility and aiding in informed decision-making.
- Reformed data accessibility within the team by architecting a high-**performance data warehouse on AWS**. Utilized **Spark** to seamlessly ingest data from various sources and centralized payables data from multiple systems into the data warehouse. Developed SQL stored procedures for generating management reports, reducing manual reporting efforts by 40%.

Business Analyst Intern, Analytics Dept, Caverton Helicopters *January 2018 – October 2018*

- Enhanced the client payment strategy through the creation of a predictive classification model using **Applied Logistic Regression**. This model accurately predicted and forecasted aircraft downtime with an 85% accuracy rate, enabling more informed client payment terms and contract structures.
- Actively contributed to the development of a comprehensive reporting dashboard that presented data-driven insights and actively monitored customer flight patterns, aircraft health, aircraft maintenance analytics, and maintenance information

Education

Master of Science, Applied Statistics & Operations Research
Bowling Green State University, 2021-2022
Specialized in Business Analytics

Bachelor of Science, Finance
University of Ilorin, 2015-2019

Skills

- **Programming languages**: Python (SciKit-Learn, Flask, Pandas, NumPy), R
- **Database**: MySQL, Amazon Redshift, HeidiSQL, Big Query
- **Cloud Technology:** AWS (Lambda, S3, EC2, Sagemaker, Redshift, DynamoDB, EMR, Glue, Athena), Google Cloud Platform (Big Query, IAM, Cloud Composer)
- **Big Data**: Apache Spark (PySpark, Scala Spark), Hadoop, MapReduce, Athena
- **CI/CD**: Docker, Kubernetes, Jenkins, Terraform, Ansible
- **Machine Learning and Deep Learning**: Classification, Clustering, Regression, Deep Learning, Natural Language Processing, Large Language Model, Recommender System, Social Network Mining, Computer Vision
- **Statistics**: Probability, Distribution, Hypothesis Testing, A/B Testing, Regressions, Time Series Analysis
- **Visualization**: AWS QuickSight, Tableau, Python (Matplotlib, Seaborn, Plotly), R(GGPlot), MS Excel (Charts)

Projects

- Implementation of an E-Commerce System on AWS in an automated way using Terraform and Ansible
- Implementation and deployment of a Scalable Web Application using the services of AWS Elastic Beanstalk, DynamoDB, CloudFront and Edge Locations
- Migration of a Workload running in a Corporate Data Center to AWS using the Amazon EC2 and RDS service
- NBA Player Clustering- Performed unsupervised clustering analysis on player stats to categorize NBA players based on style of play and on-court contributions
- MARIO KART EXPERIMENTAL DESIGN - Designed and analyzed an ANOVA experiment evaluating the effect of game sound on Mario Kart race times. Checked model assumptions, performed ANOVA, and generated plots.
- BASEBALL EXPLORATORY DATA ANALYSIS
- Baseball Salary Prediction- Developed a regression model using R to predict MLB player salaries based on performance statistics
- Interactive Tableau dashboard visualizing King County home sales data to deliver insightful market overview