

Olawale Victor Abimbola

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PROFESSIONAL SUMMARY

Machine Learning Engineer with 4+ years of hands-on experience, successfully delivering valuable insights through data analytics and advanced data-driven methods. Skilled in data extraction and mining, machine learning, NLP, and recommendation systems, and proficiently deploying machine learning models into production.

RESEARCH INTEREST

Statistical Machine Learning, Recommendation System, Information Retrieval, Deep Learning, Computer Vision

CORE SKILLS

Python; R; Docker; Kubernetes; Kubeflow; Airflow; MLflow; Git; Jenkins; TensorFlow, Keras, PyTorch, Pandas, Scikit-learn, Numpy, Apache Spark, Databricks, PySpark, Hadoop, Cassandra, PostgreSQL, MongoDB ETL, S3, AWS, GCP, Tableau, PowerBI, Matplotlib, Scipy, Seaborn, Plotly, Ggplot, Pytest, unittest, Flask, FastAPI, Django, LangChain, LLM

PROFESSIONAL WORK EXPERIENCE

Data Scientist/Machine Learning Engineer, Creative Advanced Technologies, Dubai, UAE (Remote) 03/2022 - Date

- Built and maintained recommendation systems on the production pipeline with zero downtime; resulting in a 40% reduction in customer support queries relating to recommendations, saving 25 hours per week.
- Optimized performance and efficiency of all recommendation systems by developing an automated training process using advanced MLOps tools, resulting in a 30% improvement in system performance while increasing operational efficiency.
- Implemented REST API endpoints for each recommendation system using FastAPI and Docker, resulting in a rapid communication process with response times of 300ms, and enabling seamless integration with other systems.
- Led the implementation of CI/CD cronjob pipelines, enabling seamless continuous integration and deployment, reducing update cycle time by 60%, and ensuring up-to-date recommendation systems for optimal user experience.
- Spearheaded the development and implementation of AI-powered content moderation models, utilizing ML and NLP techniques to detect and remove 95% of offensive language, hate speech, NSFW content, and violence.
- Streamlined the moderation processes by adopting Kafka orchestration and MLOps pipeline, resulting in a 40% reduction in manual effort and increased operational efficiency.
- Integrated LangChain with OpenAI's Large Language Models (LLMs) to develop a groundbreaking AI-based essay grading system, revolutionizing educational assessment with enhanced accuracy and personalized student feedback.

Data Scientist, Longevity InTime BioTech, Wilmington, Delaware USA (Remote) 01/2022 - 03/2022

- Developed and maintained predictive models using medical imaging (CT, PET, MRI) and data for cancer diagnosis and treatment.
- Deployed and maintained models in the Longevity app for disease prediction, analyzing user biomarkers from devices like Apple Watch and Fitbit.

Data Scientist, Data Science Nigeria, Lagos Nigeria 01/2020 - 02/2022

- Streamlined city/county application processes by providing technical GIS services and support; using JOSM, QGIS, and ESRI Products to create geospatial data visualizations that saved 50+ hours per week.
- Orchestrated an automated ETL pipeline that analyzed geospatial data; identified key intelligence insights that led to a 30% reduction in response time.
- Executed a comprehensive Health Store Mapping and Analytics strategy in collaboration with the Bill Melinda Gates Foundation (BMGF), resulting in enhanced visibility and optimized resource allocation healthcare services in over 50+ remote areas in Nigeria.
- Created a Retail Audit Computer Vision model using YOLO architecture to recognize over 500 FMCG products in Nigeria, determine the visibility, and provide detailed analytics based on the detected FMCG products.
- Designed and developed a deep learning model to classify Community pharmacies (CP) and Proprietary Patents and Medicine Vendors (PPMV) stores, achieved >90% accuracy using ResNet-50 with PyTorch resulting in a 20% reduction in data verification check-time.

AI Research Assistant, Africa4AI, Part-time Remote

12/2019 - 12/2020

- Conducted a comprehensive analysis of over 600k tweets, to identify 4 unique themes and quantify the prevalence, leading to targeted communication strategies and public health interventions addressing prevalent misconceptions and concerns surrounding COVID-19.
- Pioneered the development of an object detection model for identifying rooftops in satellite images, specifically focusing on remote regions in Africa; facilitated efficient disaster response planning with a mAP of over 80%.
- Conducted a study in predicting traffic accidents on major roads in South Africa using LightGBM and Catboost resulting in predicting the occurrence of accidents at a particular road segment hourly with an accuracy of 80%.

Student Intern, National Bureau of Statistics

11/2014 - 01/2015

- Analyzed and extracted valuable insights from large datasets, leading to the identification of cost-saving opportunities and revenue growth initiatives, resulting in a 15% increase in profitability.
- Prepared weekly and monthly reports, utilizing advanced analytical tools and techniques to present key findings and trends in a clear and concise manner, enabling strategic decision-making.

SCHOLARLY AND REVIEW ACTIVITIES

Elsevier Data In Brief Journal

04/2020 - Date

- I have had the privilege of evaluating manuscripts submitted to this esteemed journal. I work closely with the editorial board to assess the suitability of the research papers submitted for publication and provide constructive feedback to authors.

International Journal of Computing and Digital Systems (IJCDs)

04/2023 - Date

- Provided critical and constructive feedback on manuscripts assigned by the editor, ensuring the quality, originality, and relevance of the research published in IJCDs.
- Maintained confidentiality and adhered to ethical guidelines in the review process, ensuring the integrity of the research and upholding principles of academic integrity.

EDUCATION

Worldquant University, *MSc - Financial Engineering*

2022

Federal Polytechnic Ilaro, *Higher National Diploma - Mathematics and Statistics*

2018

HONORS AND AWARDS

- UK Global Talent Award in Digital Technology (AI/ML Space) 2023
- Second Place. World Bank Data4Governance: Improving Accountability and Service Delivery Hackathon 2020
- 3rd Place, Zindi Africa Uber Data Science Competition 2020

PROJECTS

COVID-19 CT Scan Images Detection Using Transfer Learning Model

- Developed a data cleaning process for all the medical imagery by adopting Keras data generator to generate more data to improve the training data by 75%.
- Leveraged the use of VGG16 transfer learning models to extract features from the medical image dataset.
- Built a machine learning model using XGBoost and Bayesian Optimization for parameter tuning to achieve 94% accuracy.

Movie Recommendation System

- Ideated and Curated an ETL pipeline for preprocessing the movie dataset, and saved the result in an S3 bucket.
- Implemented a training pipeline for the recommendation system with a cosine similarity of over 80%, while saving the model artifacts to an S3 bucket.
- Wrapped the model to a RestAPI endpoint and tested the response time of the RestAPI with locust framework resulting in about 300ms responses per second.
- Orchestrated all three services in a docker-compose, creating a Jenkins pipeline for Continuous Integration and Delivery.

SELECTED PUBLICATIONS

1. **O. Abimbola**, Ogbekile, C.; and E. Oseghale, [Impact of COVID-19 on Local Markets: An Application of Garch and Markov-Switching Dynamic Regression](#),
2. N. O. Adeboye and **Olawale, Abimbola**, [An overview of cardiovascular disease infection: A comparative analysis of boosting algorithms and some single based classifiers](#), Statistical Journal of the IAOS, (2020), pp. 1–10.
3. N. O. Adeboye, **Olawale Abimbola**, and S. O. Folorunso, [Malaria patients in Nigeria: Data Exploration Approach](#), Data in Brief, Volume 28, 2020, 104997, ISSN 2352-3409
4. S. A. Afolabi, S. O. Folorunso, Z. S. Bunyula, O. O. Banjo, S. S. Matshika, W. U. Warrie, N. Ngqambela, A. E. Adepoju, H. Rabophala, **Olawale, Abimbola**, et al., [Social Listening: A Thematic Analysis of COVID-19 Discussion on Social Media](#), medRxiv, (2020).
5. E. Ogundepo, S. Folorunso, O. Adekanmbi, O. Akinsande, O. Banjo, E. Ogbuju, F. Oladipo, **Olawale, Abimbola**, E. Oseghale, and O. Babajide, [An Exploratory Assessment of A Multidimensional Healthcare and Economic Data on Covid-19 in Nigeria](#), in brief, 33 (2020), p. 106424.
6. S. Afolabi, W. Warrie, O. Banjo, O. Iwashokun, **O. Abimbola**, N. Ngqambela, F. Soliu, Oluakanmi, F. Sakinat, and S. Matshika, [When and Where? Proactively Predicting Traffic Accidents in South Africa: our Machine Learning Competition Winning Approach](#), International Journal of Society Systems Science, 13 (2021), pp. 151–170.
7. O. Adekanmbi, W. F. Oyewusi, W. Warrie, A. Odukoya, **O. Abimbola**, O. Osakuade, and M. Salami, [COVNLP: A Multisource COVID-19 Dataset For Natural Language Processing](#), International Workshop on Social Impact of AI for Africa, Association for the Advancement of Artificial Intelligence(SIAIA-AAAI-22), (2022).
8. Onoja, M., Jegede, A., Blamah, N., **Abimbola, O. V.**, & Omotehinwa, T. O. (2022). EEMDS: [Efficient and Effective Malware Detection System with Hybrid Model based on XceptionCNN and LightGBM Algorithm](#). Journal of Computing and Social Informatics, 1(2), 42-57.

PROFESSIONAL MEMBERSHIP

- Member, Black In AI
- Member, Professional Statisticians Society of Nigeria (PSSN)
- Member, Data Science Africa
- Member, Data Science Nigeria
- Member, Python Nigeria