Michael Dubem Igbomezie

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Personal Profile

I am an Applied Data Scientist and Business Analyst, with strong inclination to AI and Deep Learning, Software Development and Big Data. I am quite passionate about improving the society and human rights with AI. Searching mostly for Data Science, Machine Learning and Data Analysis positions.

Specialties Natural Language Processing (BERT, LLM) and Deep Learning, Machine and Statistical Learning, Big Data (Apache Spark), Time Series (ARIMA), DB Creation (ER Schema Creation, Deployment), TPL and API Development and Deployment, ML Lifecycle.

Data Science Projects

Alfred (AI Powered Assistant) - Ongoing

L'Aquila, Italy

Personal Project *2023*

- This project will involved the use of combinatorial optimization, network analysis and the integration of LLMs (GPTs) to provide assistance to users

Citizens' Voice Platform

L'Aquila, Italy

Personal Project *Aug 2022 - Mar 2023*

- This project is the proof of concept (POC) of a bigger idea, which is based on raising awareness amongst the people on their rights and powers as "the people", helping them understand the government structure, get to know their leaders, and make their voices a lot more audible. It focuses on visualization of citizens' sentiment and trending discussions (using PowerBI dashboard) which is automatically and periodically predicted (using NLP, Tensorflow, Pytorch SimpleRNN, LSTM, BERT etc.) and extracted (using Gensim LDA) respectively, for technical and non-technical users. This data is automatically and periodically extracted (using Twitter API and GitHub Actions) from citizens' social platforms and stored using AWS RDS. These results and data are also made available to technical users using a REST API and Python Third Party Library (TPL). Deployment was done on Heroku, Pypi, AWS, Digital Ocean and Docker.
- **Report Link:** Link to Conclusion Report Posted on LinkedIn, Link to Report on GitHub
- **Dashboard:** Link to Published PowerBI Dashboard
- **Phase 1 Repo:** Link to Phase 1 GitHub Repository, Link to Phase 1 LinkedIn Article
- **Phase 2 Repo:** Link to Phase 2 GitHub Repository, Link to Phase 2 LinkedIn Article
- **Tools Used:** AWS RDS, PGAdmin4, TwitterAPI, FastAPI, VSCode, Heroku, Pypi, BERT, Gensim, Tensorflow, Pytorch, Scikit-learn, Docker, Digital Ocean (Kubernetes), GitHub Action, Git, Ubuntu 22.04, GPU Tesla T4, PowerBI

PDF Reader

L'Aquila, Italy

Personal Project *2023*

- This is a brief project which extracts tables from PDF files, embeds the contents of the table using OpenAI LLM and upserts the contents into a Vector Store.
- **GitHub Repo:** Repository Link, Loom Vdieo
- **Tools Used:** Streamlit, Camelot, Weaviate and OpenAI

Cricket Tournament Simulation

L'Aquila, Italy

Personal Project *2023*

- This is a brief project which simulates an entire cricket tournament with multiple teams while making use of the fundamental principle of OOP (Object Oriented Programming)
- **Project Link:** Repository Link, Loom Video Explanation
- **Tools Used:** Sreamlit, Python OOP concepts

Voters' Registry Extraction and Fraud Analysis

L'Aquila, Italy

Personal Project *Nov 2021*

- This project is about collating the images of registered voters, transforming them and executing a Convolution Neural Network on it to identify the underage voters, and scraping a sample or the entire dataset of registered voters from INEC website to identify duplicate names, and check know how these errors are distributed across the country.
- **GitHub Repo:** Repository Link
- **Tools Used:** Selenium, Tensorflow, VS Code, Jupyter, Git

UK Unemployment Rate Time Series Project

L'Aquila, Italy

Universita' degli Studi dell'Aquila *Dec 2022*

- This project focuses on gathering time series data for the UK Unemployment Rate, transforming the data, building a suitable ARIMA model for the data, forecasting future values using the built model, and comparing this forecast with the real world outcome.
- **GitHub Repo:** Repository Link
- **Tools Used:** Gretl, Excel

Selection Methods Python TPL (Contribution to Python Open Source) *L'Aquila, Italy*

Personal Project *Aug 2022*

- Third Party Library (TPL) for selecting the optimal features using the various selection methods including stepwise algorithm amongst others.
- **Project Links:** Library Link on Pypi, GitHub Repository Link
- **Tools Used:** VS Code, Git, Pypi

Customer Loan Application Classification *Nigeria*

Personal Project *2021*

- This project involved the cleaning, descriptive analysis of a customer loan dataset, and the implementation and comparison of various classification algorithms including KNN, Decision Tree, SVM and others for prediction outcome of loan payment.
- **GitHub Repo:** Repository Link

Algo-Trader Development *Nigeria*

Personal Project *2021*

- This project involved the use of MQL4 and MQL5, along with MetaTrader to delevop, test and deploy trading algorithms. These methods were tested on a live account successfully for a period of 6 months.
- **GitHub Repo:** Repository Link
- **Tools Used:** Jupyter, Scikit-learn, MQL4, MQL5, MetaTrader

Automated Web Application for Predicting High Impact Forex Economic News Release *Nigeria*

Personal Project *2020*

- This project entails the use of Beautiful soups and Selenium APIs to scrape an Economic News Release website of historic data of various interdependent news releases, loads (updates) these extracted and transformed data into an IBM DB2 database, and then applies classification and regression machine learning algorithms on the updated database, in order to predict the most impactful news releases in the Forex Calendar
- **GitHub Repo:** Repository Link
- **Tools Used:** Jupyter, Scikit-learn, IBM DB2, Selenium, Beautiful Soup

Enginnering Projects

Bugatti Veyron 2005 3D Model *Nigeria*

Personal Project *2017*

- I trained under Reginnis Auto-repair firm, studying vehicles, and designed a model of the Bugatti Veyron 2005, covering various independent systems in the automobile system. I also designed various models for HEPSSA under Dr. Ojapah.
- **GitHub Repo:** Repository Link
- **Tools Used:** Solidworks

Design and Optimization of a Hybrid Electric Rickshaw *Nigeria*

Academic Project *2018*

- I used Solidworks, ANSYS, Matlab and Simscape, and MS Project to design and optimize a hybrid electric Auto-Rickshaw under Dr. Ojapah Mohammed. This can also be found in my portfolio, and a report of the work can be made available under request.
- **GitHub Repo:** Repository Link
- **Tools Used:** Solidworks, ANSYS, Matlab and Simscape

Authorization to process my personal data

Pursuant to Legislative Decree 196/03 and the GDPR (EU Regulation 2016/679), I authorize any interested company or her representative to process my personal data for the purpose of this application.

Note: Many other Data Science projects (involving customer segmentation, statistical third party library development and deployment etc.) can be found on my GitHub profile. I am also open to relocation and traveling.

References available upon request.