Promise Ibediogwu Ekele

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Data Scientist | Python Programming Instructor

A Data Scientist and Python Programming Instructor with 2 years of experience in applying machine learning techniques, deep learning, NLP, building and optimizing linear regression models, and delivering actionable insights through data analysis. Skilled in Python programming, with hands-on experience in libraries like Pandas, Scikit-learn, and NumPy, Tensorflow and Kera. Proven track record of teaching and mentoring aspiring data professionals, translating complex concepts into practical, real-world applications.

Technical Skills

- Programming Languages: Python, SQL
- Data Science & Machine Learning: Supervised and Unsupervised Learning, Linear Regression, Classification, Clustering, Decision Trees, Random Forests, Webscrapping, Beautiful Soup, API Authentication
- Data Analytics: Data Wrangling, Exploratory Data Analysis (EDA), Feature Engineering, Data Visualization
- Libraries & Tools: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Keras and Tensor, OpenCV, ANN, CNN, image processing, NLP
- Databases: MySQL, Microsoft SQL Server
- Version Control: GitHub
- Other Tools: Jupyter Notebooks, Google Colab, Excel

Professional Experience

Data Analytics Instructor (Remote)

Poshem Technologies Institute, North Carolina, USA. July 2024 – Present

- Designed and delivered comprehensive courses on Python, Data Analysis, and Machine Learning to over 20 students, increasing the success rate of students securing data science and data analysis roles by 10%.
- Mentored students on real-world data analytics projects, providing hands-on guidance in using Pandas, NumPy, and Scikit-learn for data cleaning, visualization, and model building.
- Created customized learning materials tailored to various skill levels, including assignments, quizzes, and projects.
- Led collaborative efforts to leverage data insights, working closely with stakeholders to achieve improvements in strategic performance indicators.

Link to my lecture videos:
Covered over 110 hours+ in teaching Python Programming, Python for Data Analysis and Data Science.
Taught over 50 Students.
https://drive.google.com/drive/folders/1rOUOn5L87VTz7y8RvVd0otAsHgs8ej38?usp=drive_link

Data Scientist (Remote)

Zion Tech Hub, Awka, Anambra State, Nigeria. June 2024

- Developed machine learning models to predict client creditworthiness, minimizing financial loss and improving risk management.
- Built and optimized classification models for clients, increasing customer satisfaction.
- Utilized Pandas and NumPy to clean, preprocess, and analyze large datasets, identifying trends that influenced strategic decision-making.

- Partnered with cross-functional teams to embed data analytics into business processes, driving growth in key metrics.

Projects

Plant Disease Detection System.

- Developed a deep learning-based system to detect plant diseases and identify the type of plant and disease. The system utilizes a Convolutional Neural Network (CNN) model to classify plant diseases into 39 classes, each with over 2,000 images.
- Utilized CNN architecture with convolutional and activation layers.
- Keras and Tensorflow layers
- Model performance 95% accuracy.

PoshChatbot 1.0.

- Developed a chatbot that uses Natural Language Processing (NLP) and machine Learning to classify user intents, facilitate course registration, and track user courses. Integrated with a database to store user and course data.
- Preprocessed user input using spacy library and reg-ex for string and pattern matching.
- Designed and integrated a database for user and course data using sqlite
- Provide user-friendly interface - streamit for course registration and tracking.

Improve Surgical Efficiency Through Optimizing Surgical Delay Time and Improving Patient care.

- Led a team of Healthcare analysts to analyze the major cause of delay and gave recommendation for improved patient care and satisfaction.
- Did data cleaning using pandas and Numpy.
- Communicated with stakeholders on how to handle missing values, it was noticed that few of the surgeries came as an emergency.
- Performed some Exploratory Data Analysis and discovered three (3) main causes of delay: delay caused by previous surgeries, delay by Surgeons, Scrub nurses, Anaesthetists, and delay caused by patience.
- Visualization was done using matplotlib and seaborn to understand trends and patterns.
- Recommendation was given and 40% of delay time was reduced.

Trainees Attendance Analytics for Certificate Awarding

- Spearheaded a team to analyze and uncover insights and patterns from Poshem Technologies Institute's trainees attendance dataset to determine certificate eligibility.
- Conducted data collection with Google Forms, data cleaning with Pandas and NumPy, and data visualization with Matplotlib and Seaborn.
- Held stakeholder meetings for clarification and feedback.
- Recommended certificate eligibility criteria, improved program structure, adjusted resource allocation, and refined marketing strategies.

Vehicle Sales Price Prediction

- Built a linear regression model using Python to predict vehicle prices, reducing loss rates by 30%.
- Analyzed the dataset with Pandas and NumPy and visualized the results with Matplotlib to present insights to stakeholders.
- Achieved 97% model accuracy for the linear regression model.
- Deployed the model using Streamlit.

Link: https://vehicle-sales-analysis-lbrcewjkrwri8du84cvtys.streamlit.app/

Emotion-Based Song Classification and Recommendation System

- Built a classification model using Python to classify and recommend songs based on emotional attributes for optimal user satisfaction.
- Analyzed the dataset with Pandas and NumPy, and conducted exploratory data analysis to understand features responsible for certain song emotions.
- Visualized data using Seaborn and Matplotlib, especially with boxplots, countplots, and bar charts to identify trends and patterns.
- Performed feature engineering to create new features.
- Trained the dataset using various classification algorithms like CatBoostClassifier, XGBoostClassifier, and RandomForestClassifier.
- XGBoostClassifier gave the optimal accuracy of 97% with minimal error.
- The model was cross-validated and fine-tuned to obtain optimal parameters.
- Deployed the model using Streamlit.

Link: https://emotion-based-song-classification-and-recommendation-system.streamlit.app/

Consumer Electronic Purchase Intent Predictor

- Built a classification model to predict whether a customer would purchase a product based on features like product specifications and user behaviors.
- Analyzed the dataset with Pandas and NumPy and conducted exploratory data analysis to understand features influencing purchase intentions.
- Visualized trends and patterns using Seaborn and Matplotlib.
- Conducted feature engineering to create new features.
- Trained the dataset with classification algorithms like CatBoostClassifier, XGBoostClassifier, RandomForestClassifier, and DecisionTreeClassifier.
- CatBoostClassifier provided optimal accuracy of 94% with minimal error.
- The model was cross-validated and fine-tuned to obtain optimal parameters.
- Deployed the model using Streamlit.

Education

Bachelor of Technology in Computer Science GPA: 4.09/5.0 October 2013 – December 2018
Federal University of Technology, Owerri, Nigeria

Certifications

- Data Science, Zion Tech Hub
- Python for Data Science, Coursera
- SQL for Data Analysis, Udemy

Additional Information

- Languages: English
- Interests: Generative AI, AI, Machine Learning Competitions, Data Engineering, Collaboration