VIGNESHWAR J

AI/ML Engineer & Data Sciencetist

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Portfolio -

PROFILE SUMMARY

Passionate AI/ML Engineer & Data Scientist with a strong foundation in Machine Learning, Deep Learning, NLP, and Data Analytics. Skilled in building predictive models, AI-driven solutions, and data-driven insights. Enthusiastic about solving real-world problems through cutting-edge AI technologies. Proficient in Python, ML frameworks, cloud deployment, and MLOps. Always eager to learn, innovate, and push the boundaries of AI!

SKILLS AND EXPERTISE

Programming Languages – Python, SQL.
Tools & Frameworks – Git, MLflow, Pickle, Streamlit.
Technical Skills – Scikit-learn,TensorFlow, PyTorch, Keras,spaCy,Pandas, NumPy, Matplotlib, Plotly, Streamlit,AWS.

PROJECTS

Music Genre Classification System **SEP 2023 - NOV 2023**
Self-based

Tech Skills - Python, TensorFlow, Scikit-learn, Librosa, CNN, SVM, KNN, MFCC,Pydub,Seaborn.

Developed a Music Genre Classification System to compare the performance of CNN, SVM, and KNN for audio classification. Conducted feature extraction using MFCCs & Spectrograms, built models, and performed extensive evaluations to determine the most accurate algorithm.

Challenges Faced:

- Handling noisy and imbalanced audio datasets
- Optimizing feature extraction for better model performance
- Fine-tuning hyperparameters for improved accuracy.

Early Disease Detection & Diagnosis of Parkinson's Disease **MAR 2024 - MAY 2023**
Self-based

Tech Skills - Python, TensorFlow, PyTorch, CNN, GNN, Medical Data Analysis.

Engineered an AI-powered early disease detection system for Parkinson's Disease using a hybrid approach combining CNN & GNN. Leveraged graph-based relational analysis and deep learning to improve diagnostic accuracy from medical datasets.

Challenges Faced:

- Handling small, imbalanced medical datasets
- Extracting meaningful features from clinical data
- Optimizing deep learning models for high accuracy

Multi-Disease Prediction System **NOV 2024 - DEC 2024**
Self-based

Tech Skills - Python, Machine Learning, Streamlit, Scikit-learn, AWS EC2, Pickle, NumPy

Developed an AI-powered Multi-Disease Prediction System for Parkinson's, Liver, and Kidney diseases using Machine Learning. Built an interactive Streamlit app and deployed it on AWS EC2 (Ubuntu) to provide real-time disease prediction and early diagnosis.

Challenges Faced:

- Handling diverse medical datasets and feature selection
- Optimizing ML models for high accuracy
- Deploying the app on AWS EC2 for seamless accessibility.

Car Resale Price Prediction with AI Chatbot **JAN 2025 - CURRENT**
Self-based

Tech Skills - Python, Machine Learning, NLP, Web Scraping, Streamlit, AWS S3 & RDS, MLflow, spaCy

Built an AI-powered Car Price Prediction System that forecasts resale values using ML models and provides personalized car recommendations through an NLP-powered chatbot. Leveraged web scraping, cloud storage, and ML techniques to enhance user experience.

Challenges Faced:

- Extracting and cleaning large-scale car listing data
- Optimizing multiple regression models for accurate price predictions
- Deploying the chatbot and ML model efficiently on Streamlit Cloud

EDUCATION

M.E.CSE - PSG College of Technology. – batch (2022 – 2024) with **CGPA 7.45**

B.E. CSE - PSG College Of Technology – batch (2019 – 2021)with **CGPA 7.04**

PAPER PUBLICATION

- Published a paper titled "**Sustainable development for smart cities: challenges and opportunities",** International Journal of Science & Engineering Development Research (www.ijsdr.org), ISSN:2455-2631, Vol.8, Issue 1, page no.1045 - 1055, January-2023, Available:https://www.ijsdr.org/papers/IJSDR2301166.pdf.
- Published a paper titled "**Performance Analysis of Deep Learning and Machine Learning Methods for Music Genre Classification System"**, International Journal of Soft Computing Paradigm (https://irojournals.com), ISSN: 2582-2640,Vol.6, Issue 2, page no.116 - 127, May-2024, Available:https://irojournals.com/jscp/article/view/6/2/1.