BABAJI B

B.Tech Mechanical | St Martins Engineering College, Secunderabad
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WORK EXPERIENCE

Data Science Intern | ProITBridge PVT LTD, Bangalore **DEC 2024 - Present**

- Developing a SQL-driven price monitoring system using Python, MySQL, and APIs to track price violations across marketplaces; implementing dynamic query-based processing and real-time exchange rate conversion for accurate violation detection and tracking.
- Designed a Quality Check System integrating the YOLO object detection model for automated defect detection in metal plates.
- Built a resume classification system using a large language model (LLM) to extract skills and classify resumes according to skill set, reducing the manual HR screening time by 40
- Engineering and fine-tuning machine learning models for classification, regression, clustering, and recommendation tasks, enhancing model accuracy through feature selection and hyperparameter tuning.
- Performing feature engineering on raw datasets to identify key attributes that improve model performance and predictive accuracy.
- Exploring and building Retrieval-Augmented Generation (RAG) applications using LangChain by integrating vector databases, prompt templates, and language models to develop context-aware and document-driven AI solutions.

PROJECTS

Minimum Advertised Price (MAP) Monitoring System **APR 2025 – Present**

- Designing a dynamic SQL-based system to process seller data, compare advertised prices with threshold values, and store violations in a monitoring table.
- Implementing real-time exchange rate conversion to handle regional pricing using API integration and caching techniques.
- Developing a rule-based violation detection mechanism that flags sellers whose advertised prices fall below the Minimum Advertised Price (MAP) set by product or brand owners.
- Identifying fraudulent sellers using alias names, fake store names, and multiple marketplace accounts to bypass MAP policies.
- Optimizing data handling by dynamically selecting seller tables based on input dates, improving tracking efficiency.
- Aggregating violations by Region and Subcategory to enable early detection of high-risk sellers and ensure effective policy enforcement.

Hole Detection in Metal Parts Using YOLO Model **FEB 2025 - MAR 2025**

- Build a computer vision solution for industrial defect detection using YOLO object detection, focusing on real-time processing.
- Curated and annotated a custom data and increased the size of data by using augmentation techniques to train and validate the model, emphasizing robustness in varying lighting and material conditions.
- Optimized pre-processing techniques to boost model performance and exported results in JSON format

Fraud Detection Using Autoencoders **JAN 2025**

- Developed an Autoencoder-based fraud detection model to identify fraudulent credit card transactions.
- Trained a deep learning model to learn normal transaction patterns and detect anomalies.
- Used Mean Squared Error (MSE) reconstruction loss to flag suspicious transactions.
- Achieved high recall and precision in detecting fraudulent activities.
- Evaluated the model using AUC-ROC, precision, recall, and F1 score for accurate fraud detection.

EDUCATION

B.E. Mechanical Engineering St.Martin's Engineering College, Hyderabad (2021–2024)

Diploma in Mechanical Engineering SLC's Polytechnic College, Hyderabad (2018–2021)

COURSEWORK / SKILLS

- Python
- OOPS Concepts
- Statistics
- Data Analysis
- Data Visualization
- SQL
- Machine Learning
- Deep Learning
- Computer vision
- NLP

TECHNICAL SKILLS

Languages: Python, SQL
Technologies/Frameworks: Pandas, NumPy, Seaborn, Matplotlib, Streamlit, Beautiful Soup, Scikit-learn, TensorFlow, Keras, NLTK, Langchain, FastAPI
Developer Tools: VS Code, Google Colab, Jupyter notebook

SOFT SKILLS

- Problem-Solving, Analytical Thinking, Communication, Team Collaboration, Time Management

ACHIEVEMENTS

- Presented a paper on "Intelligent Autonomous Six-Legged Robot" at college-level conference hosted by St. Martin's Engineering College, highlighting innovations in robotics and autonomous mobility.

DECLARATION

- This resume truthfully reflects my qualifications and experience.