Pranay Jagtap

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PROJECTS

Mobile Phone Price Classification
URL: https://pranayjagtap.netlify.app/portfolio-template.html?id=004-mobile-price-classification

- Developed and trained Logistic Regression, K-Nearest Neighbors, and Random Forest classifiers using Scikit-Learn's Pipeline and GridSearchCV, achieving a highest accuracy of 91% with the Random Forest model.
- Conducted detailed exploratory data analysis to understand feature distributions and their impact on mobile phone prices, identifying key features like RAM, internal memory, and 4G availability as significant predictors.
- Evaluated model performance using metrics such as accuracy, F1-score, confusion matrix, precision-recall curve, and ROC curve, selecting the best model based on highest accuracy and F1-score.
- Utilized DAGsHub and MLflow for logging models and plots, ensuring reproducibility and facilitating future deployment.

American Sign Language (ASL) Detection
URL: https://pranayjagtap.netlify.app/portfolio-template.html?id=005-asl-detector-pytorch

- Implemented and fine-tuned the EfficientNet_B0 model using transfer learning to classify 29 ASL hand signs, achieving an overall accuracy of 96%.
- Preprocessed and augmented a dataset of 87,000 images, ensuring high-quality inputs for model training and improving model robustness.
- Trained the model using the Adam optimizer and Cross Entropy Loss, with early stopping to prevent overfitting, and optimized hyperparameters to enhance performance.
- Evaluated model performance using precision, recall, F1-score, and confusion matrix, and logged model, plots and evaluation metrics to MLflow for reproducibility and future deployment.

Indian Foreign Exchange Reserves Prediction
URL: https://pranayjagtap.netlify.app/portfolio-template.html?id=001-foreign-exchange-reserves-prediction

- Main objective was to successfully predict future foreign exchange reserves (in US $ Million).
- Conducted Exploratory Data Analysis on each indicator in dataset from Reserve Bank of India (RBI).
- Compared performance of the different times series regression models with Facebooks' Prophet model.
- Selected the best performing Prophet model to predict future Foreign Exchange Reserves.

WORK EXPERIENCE

MACHLAB INNOVATIONS AND RESEARCH CENTER • Nagpur, MH, IN • 2022 – 2023
Electrical Engineer

- Designed and developed circuit schematics and PCBs.
- Assist in designing, developing, testing and integrating inverter for solar inverter.
- Executed hardware tests with oscilloscopes and DMMs.

SKILLS

- **Technical Skills:** Programming Skills (Intermediate), Data Manipulation and Preprocessing (Intermediate), Machine Learning Algorithms and Techniques (Intermediate), Model Evaluation and Deployment (Intermediate)
- **Programming Language:** Python (Intermediate)
- **Tools & Libraries:** Pandas, NumPy, Sckit-learn, TensorFlow, Keras, PyTorch, Matplotlib, Seaborn, Plotly, mlflow, Docker, Git, Anaconda, Linux
- **Soft Skills:** Communication Skills, Problem-Solving Skills, Adaptability and Continuous Learning, Attention to Detail, Teamwork and Collaboration
- **Languages:** English (Intermediate), Hindi (native), Marathi (native)

EDUCATION

Bachelor of Electrical Engineering • Nagpur University • Nagpur, MH, IN • 2020 CGPA **8.2**