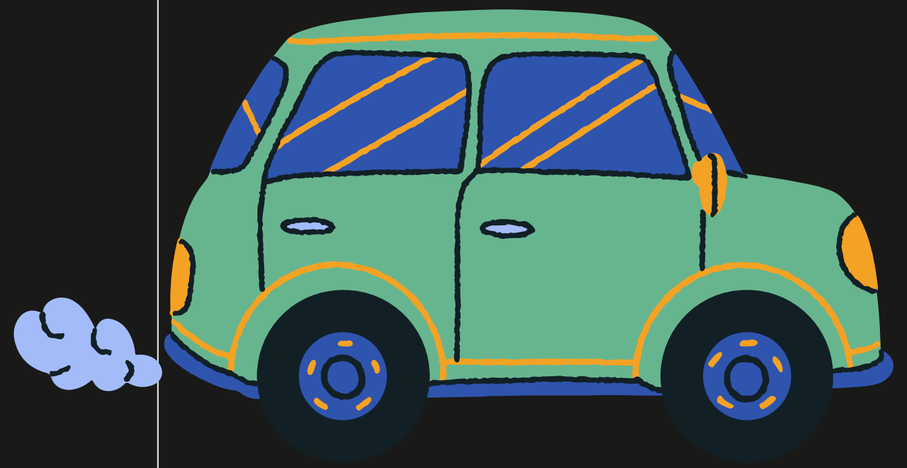
CAR PRICE PREDICTIONS

BY : HUSNAIN BUKHAIR ,ANUSHA ZUBAIR ,RABIA MUSTAFA



Introduction

This presentation aims to address the problem of predicting car prices using data mining techniques. By leveraging a dataset containing relevant car features, we will develop a model that can estimate car prices accurately, facilitating informed decision-making for buyers and sellers in the automotive market.

Data Exploration and Analysis:

- The dataset used for car price prediction is car_data.csv.
- We conducted exploratory data analysis (EDA) to gain insights into the dataset.
- We checked for missing values in the dataset to ensure data integrity.
- We utilized data visualization techniques, such as pair plots, to visualize relationships between variables and identify patterns or correlations within the data.

Preprocessing

- Identified target variable (Selling_Price) and split data into features (X) and target (y).
- Identified categorical features (Fuel_Type, Seller_Type, Transmission, Owner) and numeric features (Year, Present_Price, Kms_Driven).
- Preprocessed numeric features with StandardScaler for scaling.
- Preprocessed categorical features with OneHotEncoder for numerical representation.
- Fitted and saved the preprocessor for future use.

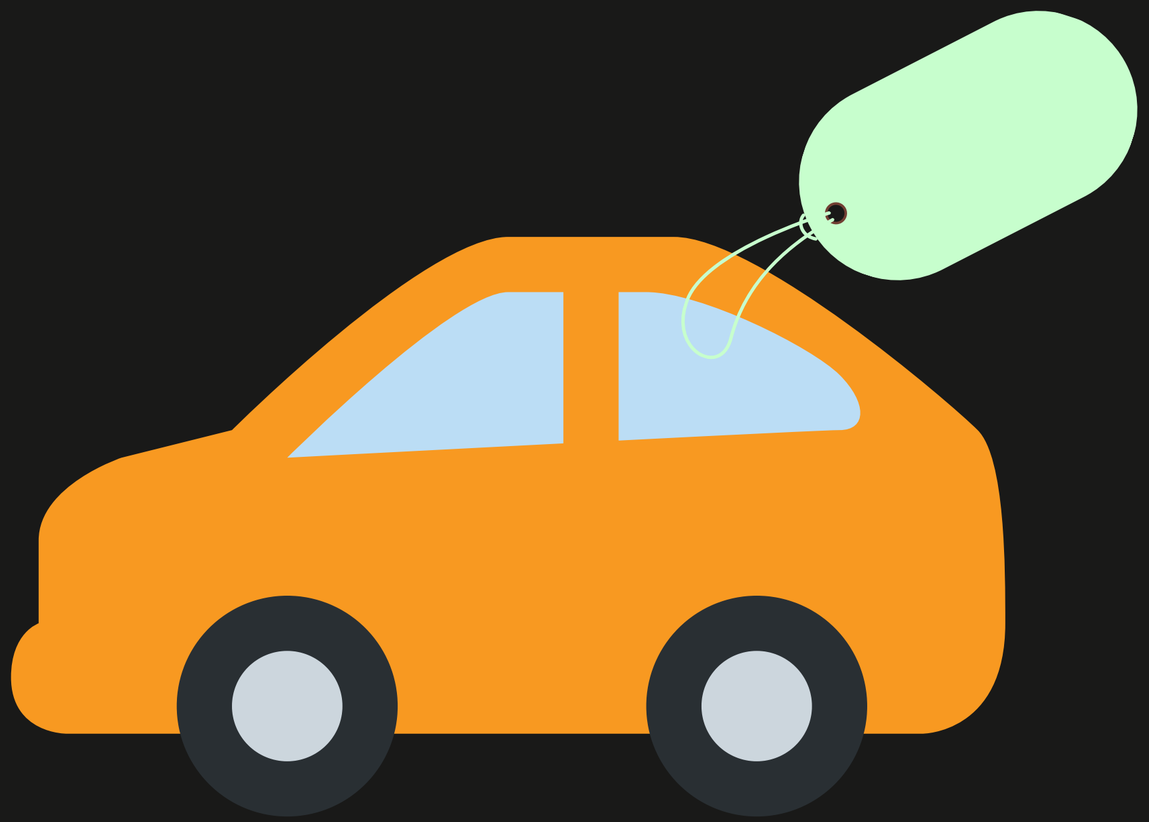
Model Training

- Defined RandomForestRegressor as the model.
- Created a pipeline with preprocessing and the model.
- Split data into training and testing sets.
- Conducted hyperparameter tuning using GridSearchCV.
- Fitted the model on the training data.

Model Evaluation

- Predicted the Selling_Price on the test data using the trained model.
- Calculated the root mean squared error (RMSE) to measure the prediction accuracy.
- Presented the evaluation results, which provide insights into the model's performance and its ability to estimate car prices effectively.

Conclusion



- Summarized the steps in car price prediction.
- Discussed the model's predictive performance.
- Mentioned limitations and improvements.
- Emphasized ongoing model maintenance.