

# USED CAR PRICE PREDICTION

Vijayaraghavan

Batch 1836



# Problems



With the covid 19 impact in the market, we have seen lot of changes in the car market. Now some cars are in demand hence making them costly and some are not in demand hence cheaper. One of our clients works with small traders, who sell used cars. With the change in market due to covid 19 impact, our client is facing problems with their previous car price valuation machine learning models.

# Value Proposition

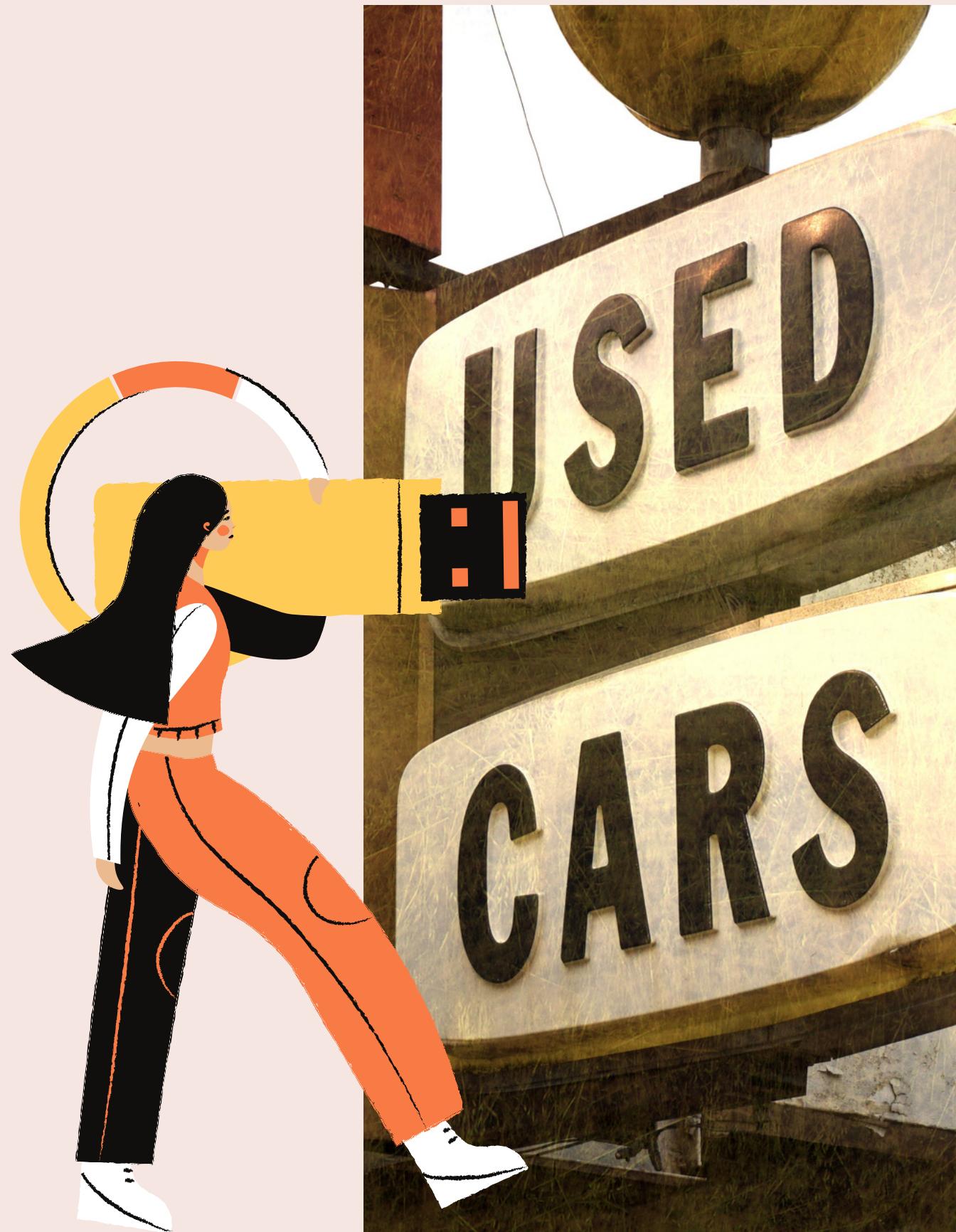
We need safe yet meaningful ways to travel.

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Finding a Cars  
at affordable  
price .

Not only  
affordable and  
also at right price.



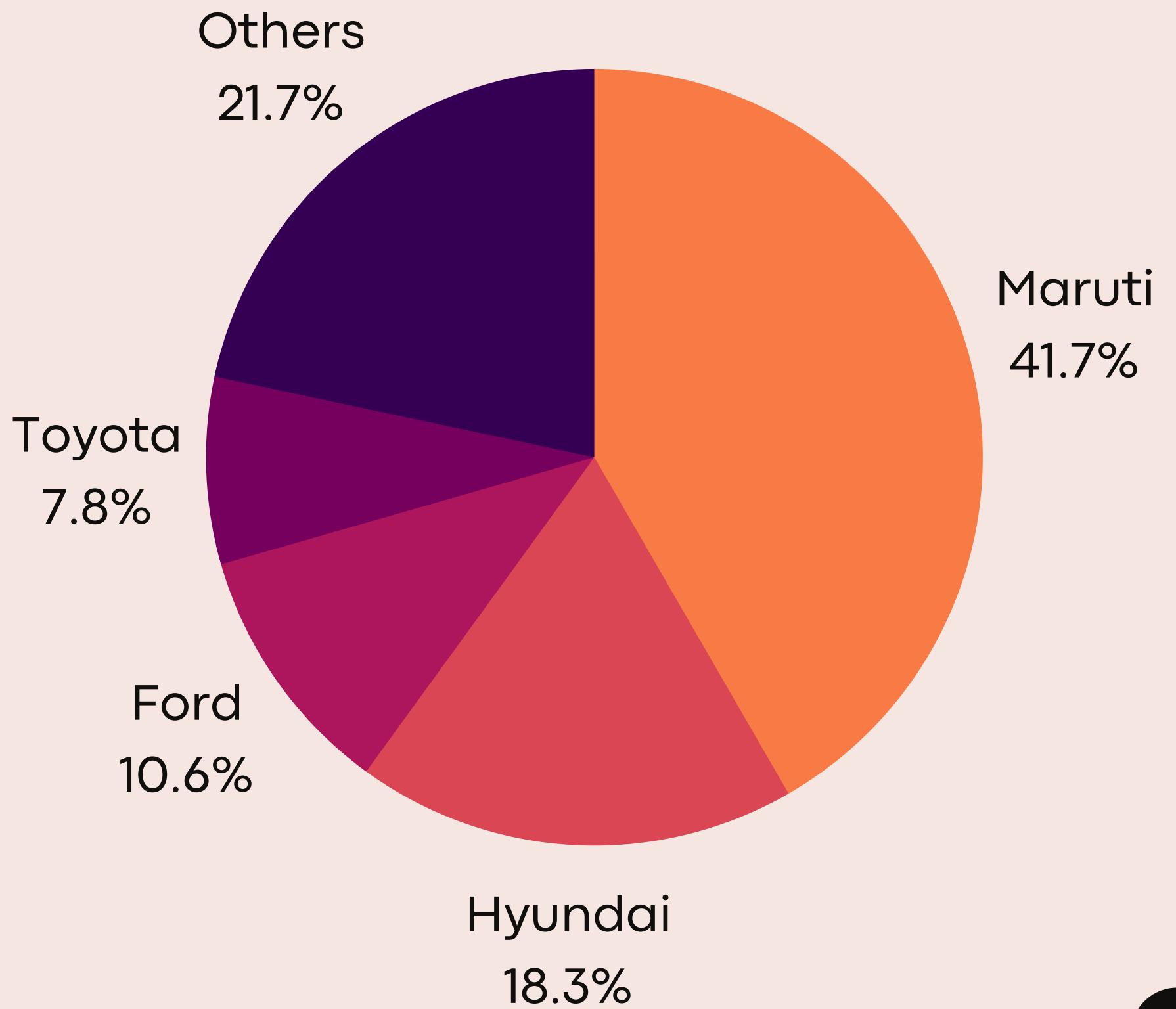


Cars:

AFFORDABLE  
& RIGHT PRICE

# Data Source & Used Car details

I used the Cars24 website to scrap the data from Delhi Location.



# Data Collection Phase

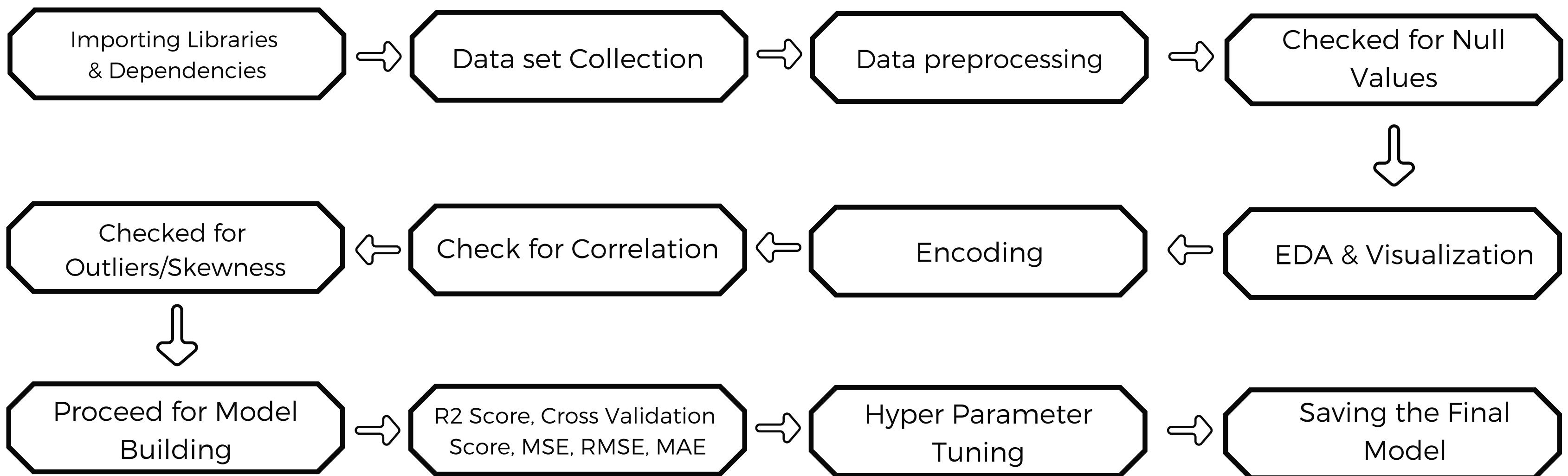
- Used Selenium Web-Scraping method to scrap the list of used cars available for sale in cars24 website.

# Model Building Phase

- Data Cleaning
- Explanatory Data Analysis
- Data Pre-Processing
- Model Building & Evaluation
- Selecting the best Model

# Model Building Flow Chart

8



# DATA PRE PROCESSING

- Importing the necessary dependencies and libraries also the dataset.
- Checking the summary of the dataset.
- Looking for null values and accordingly fill the missing data.
- Checking unique values.
- Visualizing each features.
- Performing encoding to covert the Object data.
- Checking for co-relation, Outliers & Skewness.
- Perform Scaling using Standard Scaler method.
- Creating train test split and the best random state found in the range 1-1000.

# Model(s) Development

The algorithms used on training and test data are as follows:

- Linear Regression Model
- Ridge Regularization Regression Model
- Lasso Regularization Regression Model
- Support Vector Regression Model
- Decision Tree Regression Model
- Random Forest Regression Model
- K Nearest Neighbors Regression Model
- Gradient Boosting Regression Model
- Ada Boost Regression Model
- Extra Trees Regression Model

# EVALUATION AND HYPER PARAMETER TUNING

10

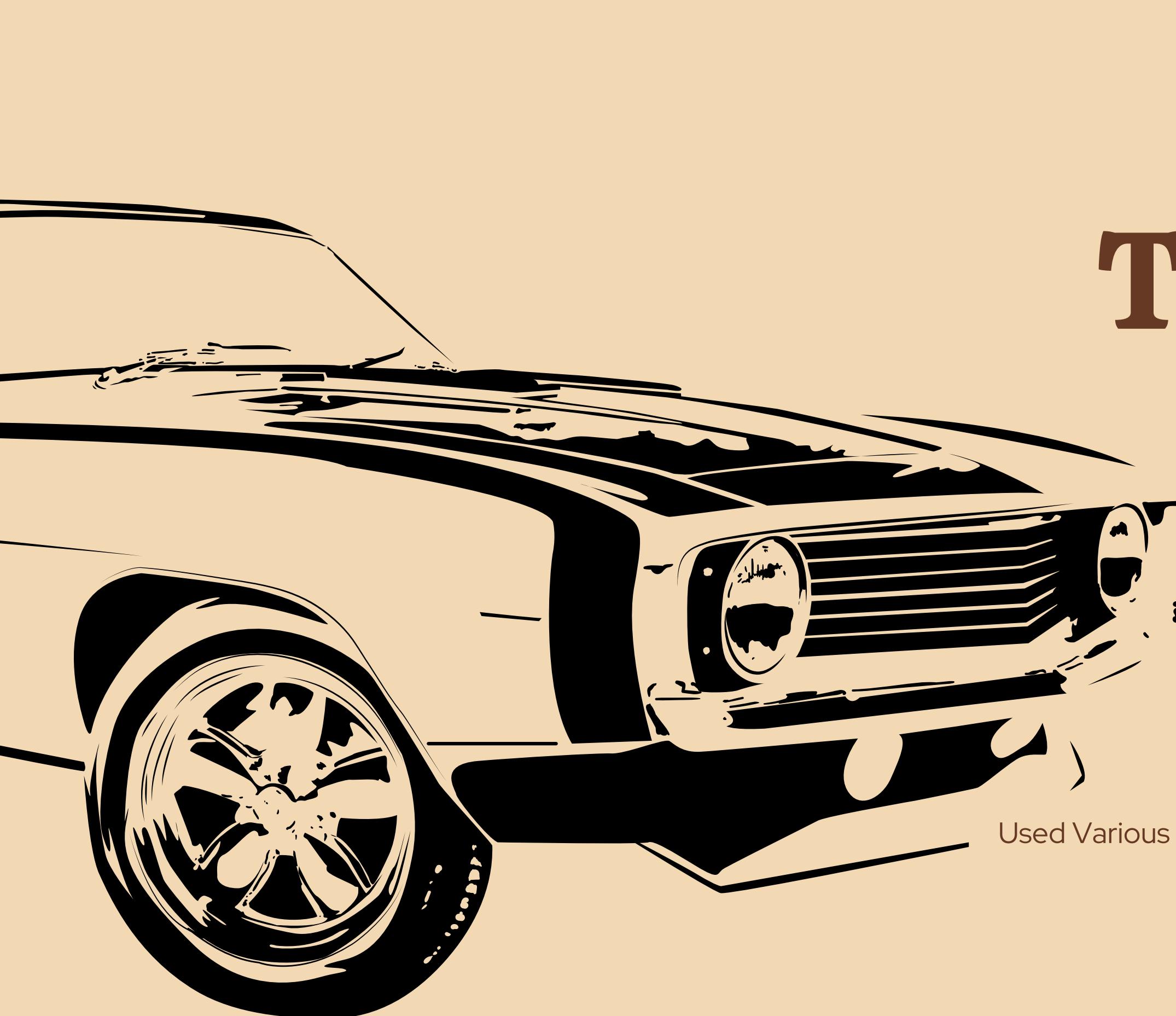
## Hyperparameter Tuning

We tried to find out  
the best  
parameters list to  
increase our  
accuracy scores.

## Grid Search CV

In order to achieve  
a higher score we  
used the Grid  
Search CV method  
with 5 folds.





# Thank you

## ACKNOWLEDGEMENT

Used Various external resources for reference to complete this project