Problem statement and Description:

The prices of new cars in the industry is fixed by the manufacturer with some additional costs incurred by the Government in the form of taxes. So, customers buying a new car can be assured of the money they invest to be worthy. But due to the increased price of new cars and the incapability of customers to buy new cars due to the lack of funds, used cars sales are on a global increase. There is a need for a used car price prediction system to effectively determine the worthiness of the car using a variety of features. Even though there are websites that offers this service, their prediction method may not be the best. Besides, different models and systems may contribute on predicting power for a used car's actual market value. It is important to know their actual market value while both buying and selling.

Machine Learning has become a tool used in almost every task that requires estimation. Companies like Cars24 and Cardekho.com uses Regression analysis to estimate the used car prices. So, we need to build a model to estimate the price of used cars. The model should take car-related parameters and output a selling price. The selling price of a used car depends on certain features as mentioned below:

1.Fuel Type

2.Manufacturing Year

3.Miles Driven

4.Number of Historical Owners

5.Maintenance Record

This is a supervised learning problem and can be solved using regression techniques. We need to predict the selling price of a car based on the given car's features. Supervised Regression problems require labelled data where our target or dependent variable is the selling price of a car. All other features are independent variables.

Linear Regression

Decision Tree Regressor

Support Vector Regressor

KNN Regressor

Random Forest Regressor

Linear Models are relatively less complex and explainable, but linear models perform poorly on data containing the outliers. Linear models fail to perform well on non-linear datasets. In such cases, non-linear regression algorithms Random Forest Regressor and XGBoost Regressor perform better in fitting the nonlinear data. Our aim is to improve prediction algorithms for car resale vale calculation and enhance user experience.