

**Car Price Prediction**

Submitted by:

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**INTRODUCTION**

* Business Problem Framing

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. we make model support his requirements.

**Analytical Problem Framing**

* Data Sources and their formats

The data sources Car Dekho it is in csv formats.



* Data Pre-processing Done
* We import important library.
* We check for null value and we found there is null value in our data set. We handle null value in later steps.
* We plot null value plot to visualize the missing value.
* We check information of our dataset.
* We convert object data into float.
* Now we fill missing value with mean and mode.
* We do feature engineering adding manufacture year and brand.
* We perform data analysis with plots.
* We encode categorical data.
* We splitting data into feature and label.
* We scale down our data using standard scaler.
* Before going for model building we split data into train and test.
* We start model building we use bagging over algorithms.
* We use Decision Tree, XGBoost, Random Forest, KNeighbors, AdaBoost, Linear Regression and for evaluation we use r2 and RMSE.
* We do hyperparameter on XGBoost.
* We save our model with pickle file.
* We predict car price.
* Finally, we save prediction into csv file.

**Model/s Development and Evaluation**

We do build bagging over XGBoost and perform hypermeter tuning on it. We achieve 94% accuracy score. For evaluation we use RMSE.



**CONCLUSION**

* Key Findings and Conclusions of the Study

XGBoost our best model.