

CAR PRICE PREDICTION PROJECT

PREPARED BY
LAKSHMI PRANEETHA

ACKNOWLEDGEMENT

Firstly,I would like to thank Fliprobo technologies for giving me the opportunity to work on this project and I would thank

Datatrained,khushboogarg mam for providing me the information related to this project.

INTRODUCTION

PROBLEM FRAMING

In this project, we have to make car price valuation model by using new machine learning models from new data. Because with the change in market due to covid-19 impact, our client is facing problems with their previous car price valuation machine learning models.

CONCEPTUAL BACKGROUND OF DOMAIN PROBLEM

Firstly, we will prepare our own dataset using web scrapping.

After that we will check whether the project is a regression type or a classification .

We will also check whether our dataset is balanced or imbalanced. If it is imbalanced one , we will apply sampling techniques to balance the data set.

Then we will do model building to check its accuracy.

Our main motto is to build a model with good accuracy and for that we will also go for Hyperparameter tuning.

REVIEW OF LITERATURE

I am summarizing my research on the topic.

I have created my own dataset using web scraping and imported important libraries for my project.

I have created the data frame.

I have analysed my data by checking its shape, number of columns, presence of null values if any and checking the datatypes.

Then I have done some data cleaning steps, e.g. checking the value counts of the target variable, dropping some irrelevant columns from the dataset, checking correlation between the dependant and independent variables using heatmap, visualizing data using distribution plots, detecting and removing skewness in my data if any, outliers detection using boxplots and removing them, balancing dataset using random oversampler method, splitting the data into independent and dependant variables and finally scaling the data.

Then I have used 5 regressor models, out of which XGBRegressor is giving a good accuracy score of 98% after hyperparameter tuning.

ANALYTICAL PROBLEM FRAMING

MATHAMETICAL/ANALYTICAL MODELING OF PROBLEM

If you look at data science, we are actually using mathematical models to model (and hopefully through the model to explain some of the things that we have seen) business circumstances , environment etc and through these model , we can get more insights such as the outcomes of our decision undertaken , what should we do next shall we do it to improve the odds . So mathematical models are important , selecting the right one to answer the business question can bring tremendous value to the organization .

Here I am using XGBRegressor with accuracy 98% after hyperparameter tuning.

DATA SOURCES AND THEIR FORMAT

Data Source: The read csv function of the pandas library is used to read the content of a csv file into the python environment as pandas data frame.

The function can read the files from the OS by using proper path to the file.

Data Description: Pandas describe() is used to view some basic statistical details like percentile, mean, std etc. of a data frame or a series of numeric values.

DATA PREPROCESSING DONE

I have checked for null values and there are some null values and outliers are present.

I have used label encoder the object type columns in the dataset.

THANKYOU