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LITERATURE REVIEW

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Team ID	PNT2022TMID21521
Project Name	Car Resale Value Prediction

1. Used Cars Price Prediction using Supervised Learning Techniques

The Used car market is an ever-rising industry, which has almost doubled its market value in the last few years.The emergence of online portals such as CarDekho, Quikr, Carwale, Cars24, and many others has facilitated the need for both the customer and the seller to be better informed about the trends and patterns that determine the value of the used car in the market.By training statistical models for predicting the prices, one can easily get a rough estimate of the price without actually entering the details into the desired website . Machine Learning algorithms can be used to predict the retail value of a car, based on a certain set of features. The main objective of this paper is to use three different prediction models to predict the retail price of a used car and compare their levels of accuracy.

Link:https://www.researchgate.net/publication/343878698_Used_Cars_Price_Prediction_using_Supervised_Learning_Techniques

2. Price Prediction of Used Cars Using Machine Learning

This paper aims to build a model to predict used cars' reasonable prices based on multiple aspects, including vehicle mileage, year of manufacturing, fuel consumption, transmission, road tax, fuel type, and engine size. This model can benefit sellers, buyers, and car manufacturers in the used cars market. Upon completion, it can output a relatively accurate price prediction based on the information that users input.Before the actual start of model-building, this project visualized the data to understand the dataset better. The dataset was divided and modified to fit the regression, thus ensuring the performance of the regression.

Link: https://ieeexplore.ieee.org/document/9696839

3. **New Model for Residual Value Prediction of the Used Car Based on BP Neural Network and Nonlinear Curve Fit**

A new model for predicting the residual value of the private used car with various conditions, such as manufacturer, mileage, time of life, etc., was developed in this paper. A comprehensive method combined by the BP neural network and nonlinear curve fit was introduced for optimizing the model due to its flexible nonlinearity. Firstly, some distribution curves of residual value of the used cars were analyzed in the time domain. Then, the BP neural network (NN) was established and used to extract the features of the distribution curves in various conditions. A set of schemed data was used to train the NN and reached the training goal. Finally, the schemed data as inputs and the NN outputs were organized for nonlinear curve fit. Conclusion was drawn that the newly proposed model is feasible and accurate for residual value prediction of the used cars with various conditions.

Link : https://ieeexplore.ieee.org/document/5721273

4. **Second-hand Car Price Prediction Based on a Mixed-Weighted Regression Model**

In this paper, first making feature engineering, which includes data preprocessing and feature screening. Data preprocessing includes data cleaning and data transformation, data cleaning includes removing outliers and filling missing values, and data transformation is used to unify data format to improve data quality. The feature screening includes correlation analysis and feature extraction based on LightMBG, and the screened features provide the basis for model building, training and prediction. Then, five regression models are constructed by using the feature attributes obtained by the feature engineering for training, and evaluated.

Link : https://ieeexplore.ieee.org/document/9760371

5. **Used Cars Price Prediction and Valuation using Data Mining Techniques**

A primary objective of this project is to estimate used car prices by using attributes that are highly correlated with a label (Price). To accomplish this, data mining technology has been employed. Null, redundant, and missing values were removed from the dataset during pre-processing. In this supervised learning study, three regressors (Random Forest Regressor, Linear Regression, and Bagging Regressor) have been

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trained, tested, and compared against a benchmark dataset. The researchers of this project anticipate that in the near future, the most sophisticated algorithm is used for making predictions, and then the model will be integrated into a mobile app or web page for the general public to use.

Link : https://scholarworks.rit.edu/cgi/viewcontent.cgi?article=12220&context=theses