LITERATURE SURVEY

Date	28 October 2022
Team ID	PNT2022TMID12028
Project Name	Car Resale Value Prediction

1. CAR PRICE PREDICTION [Praful Rane1, Deep Pandya2, Dhawal Kotak3, 2021]

The first paper is Predicting the price of Used Car Using Machine Learning Techniques. In this paper, they investigate the application of supervised machine learning techniques to predict the price of used cars in Mauritius. The predictions are based on historical data collected from daily newspapers. Different techniques like multiple linear regression analysis, k-nearest neighbours, naïve bayes and decision trees have been used to make the predictions. The Second paper is Car Price Prediction Using Machine Learning Techniques. Considerable number of distinct attributes are examined for the reliable and accurate prediction. To build a model for predicting the price of used cars in Bosnia and Herzegovina, they have applied three machine learning techniques (Artificial Neural Network, Support Vector Machine and Random Forest). The Third paper is Price Evaluation model in second hand car system based on BP neural networks. In this paper, the price evaluation model based on big data analysis is proposed, which takes advantage of widely circulated vehicle data and a large number of vehicle transaction data to analyze the price data for each type of vehicles by using the optimized BP neural network algorithm. It aims to establish a second-hand car price evaluation model to get the price that best matches the car.

2. Used Car Price Prediction using K-Nearest Neighbor Based Model [K.Samruddhi¸ Dr. R.Ashok Kumar, 2020]

Predicting the price of used cars is one of the significant and interesting areas of analysis. As an increased demand in the second-hand car market, the business for both buyers and sellers has increased. For reliable and accurate prediction it requires expert knowledge about the field because of the price of the

cars dependent on many important factors. This paper proposed a supervised machine learning model using KNN (K Nearest Neighbor) regression algorithm to analyze the price of used cars. We trained our model with data of used cars which is collected from the Kaggle website. Through this experiment, the data was examined with different trained and test ratios. As a result, the accuracy of the proposed model is around 85% and is fitted as the optimized model.

3. Predicting the Price of Used Cars using Machine Learning Techniques [Sameerchand Pudaruth]

In this paper, we investigate the application of supervised machine learning techniques to predict the price of used cars in Mauritius. The predictions are based on historical data collected from daily newspapers. Different techniques like multiple linear regression analysis, k-nearest neighbours, naïve bayes and decision trees have been used to make the predictions. The predictions are then evaluated and compared in order to find those which provide the best performances. A seemingly easy problem turned out to be indeed very difficult to resolve with high accuracy. All the four methods provided comparable performance. In the future, we intend to use more sophisticated algorithms to

4. Predicting Used Car Prices [Kshitij Kumbar,Pranav Gadre, Varun Nayak, 2020]

Vehicle price prediction especially when the vehicle is used and not coming direct from the factory, is both a critical and important task. With increase in demand for used cars and upto 8 percent decrease in demand for the new cars in 2013, more and more vehicle buyers are finding alternatives of buying new cars outright. People prefer to buy cars through lease which is a legal contract between buyer and seller. The seller category includes direct seller or third party, business entity or insurance company. Under lease contract, the buyers pay regular installments of the item purchased for a predefined period of time. These lease installments are dependent upon the estimated price of the vehicle and thus, sellers are interested to know about fair estimated price of their vehicles. It is

found through studies that finding fair estimated price of a used car is important as well as challenging. So, there is a need of accurate price prediction mechanism for the used cars. Prediction techniques of machine learning can be helpful in this regard. Machine learning uses two techniques, i.e., inductive and deductive. The deductive learning is based on the usage of existing facts and knowledge to deduce new knowledge and facts while in inductive machine learning new computer programs are created by finding patterns and rules in the new data sets which were never explored before.

5. Vehicle Price Prediction System using Machine Learning Techniques [Kanwal Noor, Sadaqat Jan, 2017]

This paper presents a vehicle price prediction system by using the supervised machine learning technique. The research uses multiple linear regression as the machine learning prediction method which offered 98% prediction precision. Using multiple linear regression, there are multiple independent variables but one and only one dependent variable whose actual and predicted values are compared to find precision of results. This paper proposes a system where price is dependent variable which is predicted, and this price is derived from factors like vehicle's model, make, city, version, color, mileage, alloy rims and power steering.

Technical Architecture: