LITERATURE SURVEY

Sameerchand Pudaruth [1] proposed predicting the Price of Used cars using Machine Learning Techniques. In this paper, they collected the historical data of used cars in Mauritius from the newspapers and applied different machine learning techniques like decision tree, K-nearest neighbours, Multiple Linear Regression and Naïve Bayes algorithms to predict the price. This model has the mean error about Rs.27000 for Nissan cars and about Rs45000 for Toyota cars using KNN and around Rs51000 using linear regression. The accuracy of decision trees and NaïveBayes algorithm dangled between 60 to 70 percentile with different parameters and the overall training accuracy of the model is 61%.

Nitis Monburinon et al. [2] proposed a prediction of Prices for Used Car by Using Regression Models. In this paper, the authors selected the data from the German ecommerce site. The main goal of this work is to find a suitable predictive model to predict the used cars price. They used different machine learning techniques for comparison and used the mean absolute error(MAE) as the metric. They proposed that their model with gradient boosted regression has a lower error with MAE value 0.28 and this gives the higher performance where linear regression has the MAE value 0.55, random forest with MAE value 0.35.

Enis Gegic et al.[3] proposed Car Price Prediction using Machine Learning Techniques. In this paper, they proposed an ensemble model by collecting different types of machine learning techniques like Support Vector Machine, Random Forest and Artificial neural network. They collected the data from the web portal www.autopijaca.ba and build this model to predict the price of used cars in Herzegovina and Bosnia.The accuracy of their model is 87%.

Kanwal Noor and Sadaqat Jan[4] proposed Vehicle Price Prediction System using Machine Learning Techniques. In this paper, they proposed a model to predict the price of the cars through multiple linear regression method. They selected the most influencing feature and removed the rest by performing feature selection technique. The Proposed model achieved the prediction precision of about 98%.

A machine learning model is proposed to estimate the cost of the used cars using the K-Nearest Neighbor algorithm. The model is trained with used cars data for different trained and test ratios. Then the proposed model is cross-validated using K fold method to examine the performance to avoid the over fit.

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.

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).

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.

FUTURE SCOPE

In future this machine learning model may bind with various website which can provide real time data for price prediction. Also we may add large historical data of car price which can help to improve accuracy of the machine learning model. We can build an android app as user interface for interacting with user. For better performance, we plan to judiciously design deep learning network structures, use adaptive learning rates and train on clusters of data rather than the whole dataset.

CONCLUSION

In this paper, we have trained our model with used cars data set to predict the price. Here we have used the K nearest Neighbor algorithm and we got accuracy 85% where the accuracy of linear regression is 71%. The proposed model is also validated with 5 and 10 folds by using K Fold Method. The experimental analysis shows that the proposed model is fitted as the optimized model.

In our future work, we will apply advanced machine learning techniques and validate the model with different methods to enhance the optimization of the model with improved accuracy.