CAR RESALE VALUE PREDICTION

(PNT2022TMID08014)

BATCH. NO :09

PRESENTED BY

1.SANTHOSH B K (AC19UCS097)

2. MANEESH G G (AC19UCS065)

3. MOHAN R (AC19UCS072)

4. NAGARAJ K (AC19UCS074)

IV – B.E-CSE 'B"

ADHIYAMAAN COLLEGE OF ENGINEERING, HOSUR.

GUIDED BY : VIJAYA LAKSHMI

CONTENTS

- Objective
- Literature review
- References

OBJECTIVE

CAR RESALE VALUE PREDICTION

In order to predict the resale value of the car, we proposed an intelligent, flexible, and effective system that is based on using regression algorithms.

LITERATURE REVIEW

1). Predicting the Price of Used Cars using Machine Learning Techniques

- In this paper, four different machine learning techniques have been used to forecast the price of used cars in Mauritius.
- The mean error with linear regression was about Rs51,000 while for kNN it was about Rs27,000 for Nissan cars and about Rs45,000for Toyota cars.
- J48 and Naïve Bayes accuracy dangled between 60-70% for different combinations of parameters.
- The main weakness of decision trees and Naïve Bayes is their inability to handle output classes with numeric values.
- Hence, the price attribute had to be classified into classes which contained a range of prices but this evidently introduced further grounds for inaccuracies.
- The main limitation of this study is the low number of records that have been used.
- As future work, we intend to collect more data and to use more advanced techniques like artificial neural networks, fuzzy logic and genetic algorithms to predict car prices.

LITERATURE REVIEW Contd…

2) Predicting the Price of Second-hand Cars using Artificial Neural Networks

- The aim of this paper was to predict the price of second-hand reconditioned and used cars in Mauritius.
- The car market has been increasing steadily by around 5% for the last ten years, showing the high demand for cars by the Mauritian population.
- There are hundreds of car websites in Mauritius but none of them provide such a facility to predict the price of used cars based on their attributes.
- Our dataset of 200 records was used with the cross-validation technique with ten folds.
- The car make, year manufactured, paint type ,transmission type, engine capacity and mileage have been used to predict the price of second-hand cars using four different machine learning algorithm
- The average residual value was reasonably low for all four approaches.
- Thus, we conclude that predicting the price of second-hand cars is a very risky enterprise but which is feasible.

LITERATURE REVIEW Contd…

3) Used Cars Price Prediction using Supervised Learning Techniques

- The prediction error rate of all the models was well under the accepted 5% of error.
- But, on further analysis, the mean error of the regression tree model was found to be more than the mean error rate of the multiple regression and lasso regression models.
- Even though for some seeds the regression tree has better accuracy, its error rates are higher for the rest.
- This has been confirmed by performing an ANOVA. Also, the post-hoc test revealed that the error rates in multiple regression models and lasso regression models aren't significantly different from each other.
- To get even more accurate models, we can also choose more advanced machine learning algorithms such as random forests, an ensemble Learning algorithm which creates multiple decision/regression trees, which brings down overfitting massively or Boosting, which tries to bias the overall model by weighing in the favour of good performers.

LITERATURE REVIEW Contd…

4) Car Price Prediction using Machine Learning Techniques

- Car price prediction can be a challenging task due to the high number of attributes that should be considered for the accurate prediction.
- The major step in the prediction process is collection and preprocessing of the data.
- In this research, PHP scripts were built to normalize, standardize and clean data to avoid unnecessary noise for machine learning algorithms.

LITERATURE REVIEW Contd…

5.Vehicle Price Prediction using SVM Techniques

- Vehicle price prediction can be a challenging task due to the more number of attributes that should be considered for the accurate prediction.
- The collection and preprocessing of data is the major step in prediction.
- In this paper, to normalize, standardize and to clean the data, PHP scripts were built.
- This will used to avoid unnecessary noise for machine learning algorithms.
- The prediction performance must be increased by using data cleaning processes, but in this paper, the insufficient set of complex data is the drawback here.
- We will get only 50 percent result on applying the single machine algorithm.
- Therefore, we proposed multiple groups of machine learning algorithm to gain more accuracy and it achieved 93 percent of efficiency.
- This comparison of single and multiple groups of machine learning algorithm is significant.
- And also it overcome the drawback of single machine algorithm which is given in proposed system. Although, this system has achieved valuable performance in vehicle price prediction, our aim for the future work is to test this system to work successfully with various data sets.

REFERENCES

- Sameerchand Pudaruth,Computer Science and Engineering Department,University of Mauritius,Reduit, MAURITIUS. Predicting the Price of Used Cars using Machine Learning Techniques. International Journal of Information & Computation Technology, 2014.

- Saamiyah Peerun,Nushrah Henna Chummun and Sameerchand Pudaruth,University of Mauritius,Reduit,Mauritius. Predicting the Price of Second-hand Cars using Artificial Neural Networks. Proceedings of the Second International Conference on Data Mining,Internet Computing and Big Data,Reduit,Mauritius 2015.

- Enis Gegic,Becir Isakovic,Dino Keco,Zerina Masetic,Jasmin Kevric,International Burch University,Sarajevo,Bosnia and Herzegovina. Car Price Prediction using Machine Learning Techniques.TEM Journal,February 2019.

REFERENCES

- Pattabiraman Venkatasubbu,Mukkesh Ganesh.Used Cars Price Prediction using Supervised Learning Techniques International Journal of Engineering and Advanced Technology(IJEAT),December 2019.

- S.E.Viswapriya,Durbaka Sai Sandeep Sharma,Gandavarapu Sathya Kiran.Vehicle Price Prediction using SVM Techniques.International Journal of Innovative Technology and Exploring Engineering(IJITEE),June 2020

THANK YOU