

CAR RESALE VALUE PREDICTION

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BATCH. NO :09

PRESENTED BY

- 1.SANTHOSH B K (AC19UCS097)(TL)
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

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OBJECTIVE



CAR RESALE VALUE PREDICTION

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 NaiveBayes accuracy dangled between 60-70% for differentcombinations of parameters.
- ❑ The main weakness of decision trees and naïve bayes istheir inability to handle output classes with numeric values.
- ❑ Hence, the price attributehad 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 thelow number of records that have been used.
- ❑ As future work, we intend to collect moredata 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 algorithms.
- ☐ 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 favor 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.

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