# Literature Analysis

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With the recent arrival of internet portals, buyers and sellers may obtain an appropriate status of the factors that ascertain the market price of a used automobile. Lasso Regression, Multiple Regression, and Regression Trees are examples of machine learning algorithms. We will try to develop a statistical model that can forecast the value of a pre-owned automobilebased on prior customer details and different parameters of the vehicle.This paper aims to compare the efficiency of different models' predictionsto find the appropriate one.

- On the subject of used automobile price prediction, several previous studies have been conducted.To anticipate the value of pre-owned automobiles in Mauritius, Pudaruth employed naive Bayes, k-nearestneighbours, multiple linear regression, and decision trees. However, because there werefewer cars observed, their results were not good for prediction. Inhis article, Pudaruth concludedthat decision trees andnaive Bayes are ineffective for continuous-valued variables.

- To anticipate the price of a vehicle, Noor and Jan employed multiple linear regression. They used avariable selection methodology to determine the variables that had the highest influence and then eliminated the remainder. Only a few variables are included in the data, which were utilised to createthe linear regression model. With an R-square of 98 percent, the outcome was outstanding.

- Peerun et al. conducted study to assess the neural network's performance in predicting used automobile prices. However, especially on higher-priced cars, theestimated value is not very closeto the real price. In forecasting the price of a used car, they found that support vector machine regression outperformedneural networks and linear regression by a little margin.

- To accurately anticipate the price of a car, many different approaches have been used in the digitalworld, ranging from machine learning approaches like multiple linear regression, k-nearest neighbor, andnaive bayes to random forest and decision tree to the SAS enterprise miner.

| SNO | TITLE OF THE PAPER | NAME OF THE JOURNAL | AUTHOR | YEAR OF PUBLISHING | ACHIEVEMENTS | DRAWBACKS |
|---|---|---|---|---|---|---|
| 1. | Used Car Price Prediction | IRJET | Praful Rane, Deep Pandya, Dhawal Kotak. | 2021 | The system which is been proposed helps in determining the accurate price of used cars.It combines three different Machine Learning algorithms,which are Lasso regression,Linear regression and Ridge regression. | For better performance deep learning network structures must be designed. Rather than training on whole dataset,clusters of data can be used for training.Also large historical data can be used for improving the accuracy. |
| 2. | Vehicle Resale Price prediction using Machine Learning | Juni Khyat | B.Lavanya , Sk.Reshma , N.Nikitha , M.Namitha, L.Kanya Kumari,S.Kishore Babu | 2021 | Four distinctive AI procedures have been utilised which helps in figuring the cost of pre owned vehicles.This model gives the anticipated cost of a pre owned vehicle on the basis of past shopper information. | Model should be trained on more datasets to improve the accuracy.Also the information cleaning cycle needs improvement. |
| 3 | Predicting the Price of Used Cars using Machine | Research Gate | Sameerchand Pudaruth | 2014 | The mean error with linear regression was about Rs51, 000 while | The main weakness of decision trees and naïve bayes is their inability to |

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| | Learning Techniques | | | | for kNN it was about Rs27, 000 for Nissan cars and about Rs45, 000 for Toyota cars. J48 and NaiveBayes accuracy dangled between 60-70% for different combinations of parameters | 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. |
| 4 | Car Resale Value Prediction System | IRJET | Dhwani Nimbark, Akshat Patel, Sejal Thakkar | 2021 | This project focuses on building a system that can accurately predict a resale value of the car based on minimal features like kms driven, year of purchase etc. without manual or human interference and hence it remains unbiased. | Once more data is collected and various different cars are included in the system,the system not [performs well. deep learning-based ANN or LSTM would perform better. |
| 5 | Predicting Used Car Prices with Heuristic Algorithms and Creating a New Dataset. | ISSN | Mehmet BILEN | 2021 | A new predictable dataset was created that can be used in training heuristic algorithms. The most important headings that affect second-hand car prices are included in | It was seen that the data set could be predicted successfully. But, changes in car prices in short periods under volatile market conditions will cause these data to become outdated. |

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| | | | | | this dataset, which is formed by the compilation of used vehicle sales advertisements on the Internet, in line with expert opinions. | |
| 6 | Predicting the Price of Pre-Owned Cars Using Machine Learning and Data Science | IJRASET | G. Kalpana , Dr. A. Kanaka Durga, T. Anoop Reddy , Dr. G. Karuna | 2022 | This project is more helpful for all e-commerce companies who act as mediators for selling and buying pre-owned cars. The customer can easily be convinced in taking a decision to buy a pre-owned car out of various car models with various features | More attributes are missing like Resale history, Lic ,Accidents history,image etc in the data set which makes clear and ccurate analysis. |
| 7 | Used Cars Price Prediction using Supervised Learning Techniques | LJEAT | 2019 | Pattabiraman Venkatasubbu, Mukkesh Ganesh | The prediction error rate of all the models was well under the accepted 5% of error.They will also be comparing the prediction accuracy of these models to determine the optimal one | Even though for some seeds the regression tree has better accuracy, its error rates are higher for the rest. 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 |

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| | | | | | | multiple decision/regressio n trees, which brings down overfitting massively or Boosting. |


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