

Car Price Prediction

Anuj Shashikant Nalawade^{1*}, Jay Sunil Giridhar², Avishkar Sanjay Kalate³, Sachin Anil Chaudhari⁴

^{1,2,3,4}Student, Department of Computer Engineering, JSPM Rajarshi Shahu College of Engineering, Pune, India

Abstract: Nowadays, owning a car is normal. People buy cars based on the price of the car, the model of the car, the usability of the car, the sturdiness of the car and the included features in the car, But the most important point considered while buying a car is its price. This car price prediction system predicts the selling price of a car. It predicts the car's price based on its model, its included features, its quality, and how much miles or kilometers it has been driven. The primary purpose is to design a model for a given dataset and predict the car price with better accuracy.

Keywords: car price, machine learning, gradient boosting.

1. Introduction

In today's modern world, a car is an important means of transportation for everybody. The public choose to obtain their automobile as a result of its convenience to commute between places, permits movement with an outsized cluster of individuals with fuel potency, and safe mode of transport. Machine Learning provides numerous ways through that it's easier to predict the worth of an automobile, by the previous information that is obtainable.

We've enforced the model exploitation supervised Learning techniques of Machine Learning, which is outlined by its use of labeled information sets to coach algorithms to classify data or predict outcomes accurately.

It predicts price based on the attributes such as miles /kilometers driven, number of previous owner's, its features, model of the car, its fuel type, transmission, etc.

2. Aims and Objectives

- 1) To predict the pricing of automobile/car with accuracy.
- 2) To develop a User Interface (UI) which is user-friendly and takes input from the user and predicts the price.
- 3) To achieve maximum accuracy while predicting the price.

3. Methodology

A. Existing System

Some people preferred a good corridor, some are high or low. price with all of their demanded features, some are only weak for. notorious brands of the auto only. To elect the perfect auto is still a delicate task though some parameters like color, comfort, seating capacity, etc. are known. That's why we tried to compare some algorithms for prognosticating auto buying purposes that which one gives better delicacy. Execution of the Naive Bayes Classification method is proposed by Fitrina et. al.

Credulous Bayes is known as a simple probabilistic classifier. They connected this strategy for predicting buy. They utilized a dataset on 20 car buying information and got 75% precision.

B. Proposed System

Data is collected. The following attributes were captured for each car: Name, Location, Year, Fuel Type, Transmission, Owner Type, Mileage, Engine, Power, Seats, and Price expressed in Indian rupees. After the data was collected and stored, the data pre-processing step was applied. The attributes with unexpected values are processed accordingly i.e. In our case we have replaced them with the most repeated value of the attribute. The Cars without a price are discarded in prior. To avoid conflict in mileage among different cars, all the mileages of cars are been scaled to a kmpl because most of the records are in km. To convert categorical data values into numeric attributes like (Company, Name, Location, Fuel, Transmission, Owner) we have used a one-hot encoding approach.

Pros:

- a) It uses multiple algorithms.
- b) Easy to use.
- c) Provides user-friendly interface.

Cons:

- a) Outputs are not accurate.
- b) Less effective decision making.
- c) It can't process robust datasets.

4. Design

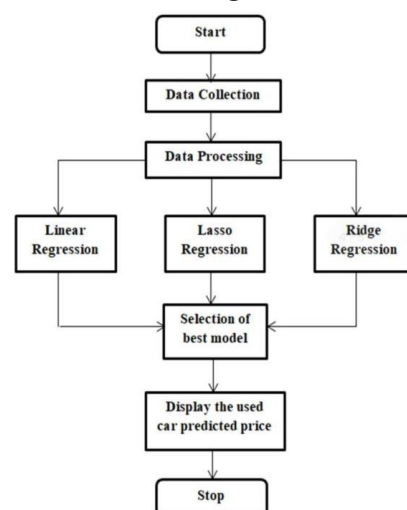


Fig. 1.

*Corresponding author: nalawadeanuj5979@gmail.com

As shown in the above figure, the process starts by collecting the dataset. The next step is to do Data Preprocessing which includes Data cleaning, Data reduction, Data Transformation. Then, using various machine learning algorithms we will predict the price. The algorithms involve Linear Regression, Ridge Regression and Lasso Regression. The best model which predicts the most accurate price is selected. After selection of the best model the predicted price is displayed to the user according to user's inputs. User can give input through website to for used car price prediction to machine learning model.

5. Future Enhancement

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.

6. Conclusion

Since India's used-car market is booming as buyers have a

wide range of options, easy financing, convenient digital sales channels, car prediction can be a challenging task due to the high number of attributes that should be considered for accurate prediction. The main limitation of this study is the low number of records that have been used. In future work, we intend to collect more data related to electric vehicles and combustion vehicles and to use more advanced techniques.

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