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Car Price Predictor

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Abstract: *The prediction of price for a car has been more popular in research area, and it needs predominant effort and information about the experts of this particular field. The number of different attributes is measured and also it has been considerable to predict the result in more reliable and accurate. To find the price of used vehicles a well defined model has been developed with the help of three machine learning techniques such as Artificial Neural Network, Support Vector Machine and Random Forest. These techniques were used not on the individual items but for the whole group of data items. This data group has been taken from some web portal and that same has been used for the prediction. The data must be collected using web scraper that was written in PHP programming language. Distinct machine learning algorithms of varying performances had been compared to get the best result of the given data set. The final prediction model was integrated into Java application.*

Keywords: Artificial neural network, Support vector machine, Random forest

I. INTRODUCTION

Predicting the price for new vehicles is more interesting andneeded problem by many users. The data set has been collected in the year of 2014 from the statistics field says that 84 percent of vehicles had been bought for their own personal usage. Later this percent has been increased very much because people has more interested to buy new vehicles often and also showing more interest on finding the price of new vehicles. This increases the efficiency of prediction techniques. Only with the help of experts and their corresponding knowledge we can achieve more accurate prediction for vehicle price. So the varyingprediction algorithms from machine learning suits this topic more efficiently. While predicting price of vehicles we need an entire different features and factors. The most significantfeature is brand and model of vehicle and also the mileage plays the major role for predicting the price of vehicle. The most popular ingredient for vehicle is type of fuel and the volume of fuel in which it consumes for each mile. This particular data set might highly affect the price of a vehicle. And also we need to consider the price of fuel because it may changes frequently. Now we can consider for four wheelers also. Varying more features might require for four wheelers than two wheelers. The variety of features such as exterior color, door number, type of transmission, dimensions, safety, air condition, interior, whether it hasnavigation or not will also influence the vehicle price. In this paper, we applied different methods and techniques in order to achieve higher precision of the used vehicle priceprediction.

II. LITERATURE SURVEY

According to author Sameerchand, they have done the predictions of vehicle price from the historical data that has been collected from daily newspapers. They have used the supervised machine learning techniques for predicting the price of vehicles. Many other algorithms such as multiple linear regression, k- nearest neighbor algorithms , naïve based, and some decision tree algorithms also been used. Allthe four algorithms are compared and found the best algorithm for prediction. They have faced some difficulties in comparing the algorithms, somehow they have managed.

According to authors Enis Gegic et al, in this paper the mainly concentrate on collecting various data from web portal by using web scrap techniques. And those have been compared with the help of different machine learning algorithms to predict the vehicle price in easy manner. They classified the price according to different ranges of price thatis already given. Artificial neural network, support vector machine, random forest algorithms were used on different datasets to build classifiers model.

Another approach was given by Richardson in his thesis work. In his theory it states more durable vehicles will be produced by vehicle producer. He compared the hybrid vehicles and traditional vehicles in hoe it actually retains their

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value for longer time using multiple regressiontechniques. This improves the environmental conditions, and also it helps to provide huge efficiency of using fuels.

Wu et al, in this paper they have used neuro fuzzy knowledge based system to demonstrate vehicle price prediction. By considering the following attributes such as brand, year of production and type of engine they predicteda model which has similar results as the simple regression model. Moreover, they made an expert system named ODAV (Optimal Distribution of Auction Vehicles) as there is a high demand for selling the by vehicles at the end of the leasing year by vehicle dealers. This system gives insights into the best prices for vehicles, as well as the locationwhere the best price can be gained. To predict a price of vehicles, the K – nearest neighbor machine learningalgorithm has been used which is based on regression models. More number of vehicles has been exchanged through this system so this particular system is more successfully managed

III. EXISTING SYSTEM

In the existing system, to predict the price of vehicles both two wheeler and four wheeler, a lot of data mining algorithms and machine learning algorithms were widely used. The major drawback of this existing system is they need more attributes in order to predict the vehicle price. More comparison techniques must be used to get the result more efficiently. It is highly complicated to get sufficient data sets that were spread widely all over the world. The datasets can be collected only through online. But not on theoffline mode. It is not possible for everyone to collect the data sets through online mode particularly in rural areas. The data sets will not have about the vehicles which werenot used for long time and also the traditional model vehicles may or may not be included in the data sets. The major drawbacks of existing system is The system is very slow due to most of the works about the keyword query just analyze individual points, and they are inappropriate to manyapplications that call for analysis of groups of different vehiclepoints. There are no fast query retrieval methods and is low due to lack of SVM under Constraints.

IV. PROPOSED SYSTEM

Based on the varying features and factors, and also with the help of experts knowledge the vehicle price prediction has been done accurately. The most necessity ingredient for prediction is brand and model, period usage of vehicle, mileage of vehicle. The fuel type used in the vehicle as well as fuel consumption per mile highly affect price of a vehicle due to a frequent changes in the price of a fuel. Different features like exterior color, door number, type of transmission, dimensions, safety, air condition, interior, whether it has navigation or not will also influence the vehicle price. In this paper, we applied different methodsand techniques in order to achieve higher precision of the used vehicle price prediction.

Advantages

- The system is more effective since it measuresthe vehicle combinations by their prices.
- The system is very fast in query retrieval due toSVM Algorithm.

V. ACTUAL WORK

5.1 Design Work

Input Design plays a vital role in the life cycle of software development. The attention of developers is required to collect the information about vehicles. The most accurate data must be entered in the input design. The design of inputis more important in minimizing the errors that has been given by the user. By the rules of software engineeringconcepts, the validation control must be defined over the input limit in the input forms or screens. The validation control must take care of other input related errors. The input screens have been included in almost all the modules. The alert message will be displayed whenever user did any mistakes while giving input. And also some messages will be provided in order to guide the user in correct way. By thiswe can achieve to get only valid details.

The user created input has been converted in to computer related format. The input design is based on data entry logical. The main goal of input design is to make the the input design will control the errors in the input form. The created application should be user-friendlymanner. Wherever the cursor is placed in processing the input must be entered in that same place. By this way the form has been designed. There might be several options fora single input so that the user has to select suited input to getthe best result. Each entered data must be validated accordingly. The error message must

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be displayed whenever the user enters any wrong data or irrelevant data as input. Even the user is in last page of input if he did not get the result properly then he can go to the first page and he can change the input given already.

The primary output form has been created in order to get communication between the administrator and theclients. The VPN system produces output in the form of managing clients by the project leaders, in a way such as creating new clients, allotting new projects to them, have a look over table in which to get the details about project status, and the same will be accessed by each clients. A new project will be assigned to every client when he completes his old project. At every initial stage of the new project, the user authentication should be maintained. A user registrationcan be done either by the administrator or the user can do byhimself. But only the administrator must have the authority to assign the projects to each user.

When the application is executed it starts running. The used browser is internet explorer and the server will start its process. The project will run on the local area network so the server machine will serve as the administrator while the other connected systems can act as the clients.

VI. IMPLEMENTATION MODULES

6.1 Seller

In this module, the login has done by the seller by using valid user name and password. After login successful he can perform some operations such as View All Authorized Users, Add Category, Add Sub Category, Add Vehicles,View All Uploaded vehicles, View Purchased Vehicles, View Search Transactions, View All Vehicle Reviews, View Vehicle Score Result, View keyword Score Result.

- **Viewing and Authorizing Users:** In this module, the Server can view all user details and authorization can be done them for login permission. User Details includes User Name, Address, Email Id and Mobile Number in the corresponding lignin page.
- **Adding Categories and Vehicles:** In this module, the admin adds Categories and Vehicles with details such as Category Name, Vehicle Name, Description and Vehicle Image.
- **List all Vehicles with Ratings:** In this module, the admin can list his entire added Productwith details along with rating. The ratings are calculated based on number of recommendations made on particular vehicle.
- **List all User's Vehicle Search History:** In this, the administrator can view all user's Vehicle search history details.
- **User:** In this module, there are n numbers of users can register. Once user registers, their details will be stored to the database.

After registration successful, he has to login by using authorized user name and password that has been sent to user. Once Login is successful user can perform some operations like My Profile, Create Online Bank Account,Search Optimal Products, Search top Products, and ViewSearch History.

- **Viewing Profile Details:** In this module, the user can see their own profile details, such as their address, email, mobile number, profile Image.
- **Search Vehicles:** In this, the user can Search vehicle based on brand and model, age, vehicle price, mileage. In My Profile, the user can Create Online Bank Account and also can View Search History.

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VII. RESULTS AND DISCUSSIONS

This section explains final output which detects used car price

Fig 1.

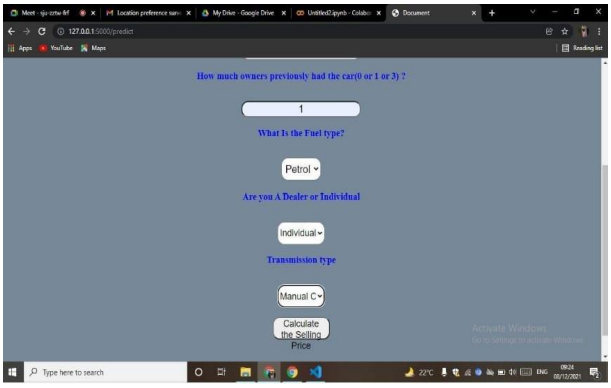

Fig 2.

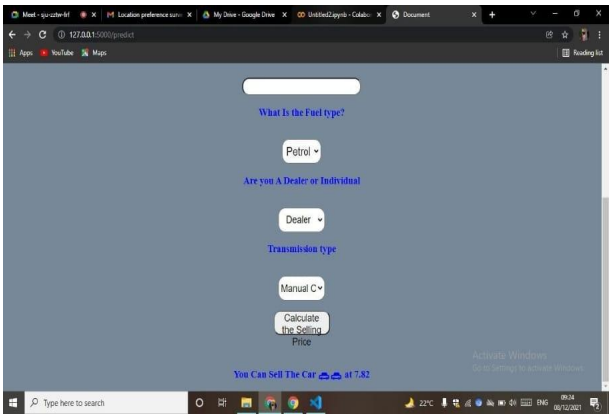

Fig 3.

Above fig 1 and fig 2 shows about the features of cars and user enters among all features accordingly fig 3 shows final output that is car price

VIII. CONCLUSION

The data set used in here can be very valuable using different prediction techniques. The prices of vehicles can be predicted using this data set on same or different prediction software as well. The proposed system evaluated variables and selected the most relevant variables out of the dataset and reduced the complexity of model by eliminating unrelated

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variables during processing and analysis phase. The future price prediction of used cars with the help of same data set will comprise of using fuzzy logic, genetic algorithm and Deep Neural Networks.

Using data mining and machine learning approaches, this project proposed a scalable framework for Dubai based used cars price prediction. Buyanycar.com website was scraped using the Parse Hub scraping tool to collect the benchmark data. An efficient machine learning model is built by training, testing, and evaluating three machine learning regressors named Random Forest Regressor, Linear Regression, and Bagging Regressor. As a result of pre-processing and transformation, Random Forest Regressor came out on top with 95% accuracy followed by Bagging Regressor with 88%. Each experiment was performed in real-time within the Google Colab environment. In comparison to the system's integrated Jupyter notebook and Anaconda's platform, algorithms took less training time in Google Colab.

REFERENCES

[1]. The following websites where referred during analysis and implementation of the project.
[2]. https://www.kaggle.com/jpayne/852k-used-car-listings
[3]. https://www.kaggle.com/austinreese/craigslist-carstrucks da ta.
[4]. http://ripublication.com/irph/ijict_spl/ijictv4n7spl_17.pdf