

Car Resale Value Prediction

LITERATURE SURVEY

Survey 1:

Author: Sameer Chand Pudaruth.

Predicting the Price of Used Cars using Machine Learning Techniques

This paper is predicting the price of used car using machine learning techniques. In this paper, they investigate the application of supervised machine learning techniques to predict the price of used cars in Mauritius. Different techniques like naïve bayes and decision trees have been used to make the predictions. The predictions are then evaluated and compared in order to find those which provide the best performances. A seemingly easy problem turned out to be indeed very difficult to resolve with high accuracy. All the four methods provided comparable performance.

Survey 2:

Author: Enis gegic, Becir Isakovic, Dino Keco, Zerina Masetic, Jasmin Kevric

Car Price Prediction using Machine Learning Techniques

A car price prediction has been a high interest research area, as it requires noticeable effort and knowledge of the field expert. Considerable number of distinct attributes are examined for the reliable and accurate prediction. To build a model for predicting the price of used cars in Bosnia and Herzegovina, we applied three machine learning techniques (Artificial Neural Network, Support Vector Machine and Random Forest). However, the mentioned techniques were applied to work as an ensemble. The data used for the prediction was collected from the web portal autopijaca.ba using web scraper that was written in PHP programming language.

Respective performances of different algorithms were then compared to find one that best suits the available data set. The final prediction model was integrated into Java application. Furthermore, the model was evaluated using test data and the accuracy of 87.38% was obtained.

Survey 3:

Author: Ning sun, Hongxi Bai, Yuxia Geng, Huizhu Shi.

Price Evaluation Model In Second Hand Car SystemBased On BP Neural Network Theory

With the rapid growth of the number of private cars and the development of the second-hand car market, second-hand cars have become the main choice when people buy cars. The online second-hand carplatform provides both buyers and sellers the chance of online P2P

trade. In such systems, the accuracy of second-hand car price evaluation largely determines whether the seller and the buyer can get more efficienttrading experience.

Survey 4:

Author: A. Rengarajan , Ravi Shastri.

Prediction of Car Price using Linear Regression

In this paper, we look at how supervised machine learning techniques can be used to forecast car prices in India. Data from the onlinemarketplace quikr was used to make the predictions. The predictions weremade using a variety of methods, including multiple linear regression analysis, Random forest regressor and Randomized search CV. The predictions are then analyzed and compared to determine which ones provide the best results.

Survey 5:

Author: Kanwal Noor, Sadaqat Jan.

Vehicle Price Prediction System using MachineLearning Techniques

In this paper, they proposed a model to predict the price of the cars through multiple linear regression method. Here system were able to achieve high level of accuracy using Multiple linear regression models to predict the price of cars collected from used cars website in Pakistan calledPak Wheels that totalled to 1699 records after pre-processing, and where able to achieve accuracy of 98%, this was done after reducing the totalamount of attributes using variable selection technique to include significant attributes only and to reduce the complexity of the model.

Survey 6:

Author: Shen Gongqi, W. Yansong, Zhu Qiang.

New Model for Residual Value Prediction of the Used Car Based on BP Neural Network and Nonlinear Curve Fit

A comprehensive method combined by the BP neural network and nonlinear curve fit was introduced for optimizing the model due to its flexible nonlinearity. Firstly, 6 some distribution curves of residual value of the used cars were analyzed in time domain. Then, the BP neural network (NN) was established and used to extract the feature of the distribution curves in various conditions. A set of schemed data was used to train the NN and reached the training goal. Finally, the schemed data as inputs and the NN outputs were organized for nonlinear curve fit. Conclusion was drawn that the newly proposed model is feasible and accurate for residual value prediction of the used cars with various conditions.

Survey 7:

Author: Saamiyah Peerun, Sameerchand Pudaruth Nushrah Henna Chummun.
Predicting the Price of Second-hand Cars using Artificial Neural Networks

The aim of this study is to assess whether it is possible to predict the price of second-hand cars using artificial neural networks. Thus, data for 200 cars from different sources was gathered and fed to four different machine learning algorithms. We found that support vector machine regression produced slightly better results than using a neural network or linear regression. However, some of the predicted values are quite far away from the actual prices, especially for higher priced cars.

Survey 8:

Author: K.Samruddhi , Dr. R.Ashok Kumar

Used Car Price Prediction using K-Nearest Neighbor Based Model

In this paper, a machine learning model is proposed to estimate the cost of the used cars using the K-Nearest Neighbor algorithm. The model is trained with used cars 7 data for different trained and test ratios. Then the proposed model is cross-validated using K fold method to examine the performance to avoid the over fit.

Survey 9:

Author: Nitis Monburinon, Prajak Chertchom, Thongchai Kaewkiriya, Suwat Rungpheung, Sabir Buya, Pitchayakit Boonpou.

Prediction of Prices for Used Car by Using Regression Models

In this paper, the authors selected the data from the German ecommerce site. The main goal of this work is to find a suitable predictive model to predict the used cars price. They used different machine learning techniques for comparison and used the mean absolute error (MAE) as the metric. They proposed that their model with gradient boosted regression has a lower error with MAE value 0.28 and this gives the higher performance where linear regression has the MAE value 0.55, random forest with MAE value 0.35.

Survey 10:

Author: Gegic, Isakovic, Keco, Masetic, & Kevric.

Used car price prediction using SVM

In this paper, using data scrapped from a local Bosnian website for used cars totalled at 797 car samples after pre-processing, and proposed using these methods: Support Vector Machine, Random Forest and Artificial Neural network. Results have shown using only one machine learning algorithm achieved results less than 50%, whereas after combining the algorithms with pre calcification of prices using Random Forest, results with accuracies up to 87.38% was recorded.