**ABSTRACT**

The used car price prediction system predicts the prices accurately and is also user friendly as it help users to get the exact knowledge of the product they are willing to buy. Due to fixed price of cars by its manufacturer and additional government taxes it increases the cost of the product which is not affordable by common people, hence rates of buying second hand car increases. This system is supervised machine learning model that uses linear regression algorithm to predict the price of a used car based on the data given by the consumer/seller. Various parameters are used to get the accuracy of the dataset. Overall the intension is to get the highest accuracy of the dataset from the system for prediction of used car. So, customers buying a car can be assured of the money they invest to be worthy. We trained our model from the data of used cars which is collected from kaggle website. Through this experiment the data was examined with different trained and test ratios. As a result, the accuracy of the proposed model is around 97.53% and is fitted as the optimized model.

**INRODUCTION**

With the Global increase in the development of information technology, and the rising of

the mobile internet, the traditional offline second-hand car trading mode has been lacking

to fulfill consumer’s demand. Now there is inception of online portals such as CarDheko , Quikr , Cars24, and many others has provided the best need for both the customer and the seller to be better informed about the trends and to determine the value of the used cars in the market. In financial year 2021, the total production volume of vehicles in India was around 22.7 million units and the number of registered vehicles across India was around 295 million in financial year 2019. It is common contract of a car rather than buying it outright. A contract is a binding lease between a buyer and a seller (or a third party– usually a bank, insurance firm or other financial institutions) in which the buyer must pay fixed installments for a pre-defined number of months or years to the seller. After the lease period is over, the buyer has the possibility to buy the car at its expected resale value.

The automotive industry is composed of a few top global multinational people and

several retailers. The multinational people are mainly manufacturers by trade whereas

the retail market features people who deal in both new and used vehicles. The used car

market has demonstrated a significant growth in value contributing to the larger area of the overall market. The used car market in India accounts for nearly 3.4 million vehicles per year. Deciding whether a used car is worth the price when you see the listings of that car online can be difficult to trust. Several factors, including mileage, brand, model, year, fuel type etc. Can influence the actual worth of a car. Based on existing data, the aim is to use machine learning algorithms to develop models for predicting used car prices. There

is a need for a system that would determine the price of a car considering those features. Issues in all previous model was that, they require higher computational resources well as memory space because of use of several algorithms. In this model linear regression is being used and the values are predicted using single algorithm which results in lesser computational resources and memory allocation. We studied various algorithms in which we found linear regression is most suitable algorithm used in this project as it gives higher accuracy.

Objectives are the target that need to be achieved and can imply that, the process or criteria used are precise, consistent, and not subject to interpretation or subjectivity. Objectives measurements and assessments rely on established standards or criteria to ensure accuracy and fairness.

• To create a model based on Linear Regression for car dataset develop a efficient and effective model which predicts the price of a used car according to user’s inputs.

• Determine a good price for a specific car model at the present.

• Train a Machine Learning model to predict the car prices.

• Create a Graphical User Interface that can display those predictions in a useful and organized manner.

• To process user inserted values and compute final result.

**LITRATURE SURVEY**

**Siva, R.; M, A. Linear Regression Algorithm Based Price Prediction of Car and Accuracy Comparison with Support Vector Machine Algorithm. ECS Trans. 2022**

In this paper, they used a dataset of 205 to perform. In that they used linear regression algorithm and support vector machine algorithm. Accuracy performed parameters of linear regression algorithm appears 91.7% which is better than support vector machine i.e. 85%.

**Bharambe, P.P.; Bagul, B.; Dandekar, S.; Ingle, P. Used Car Price Prediction using Different Machine Learning Algorithms. Int. J. Res. Appl. Sci. Eng. Technol. 2022**

In this paper, they proposed supervised machine learning techniques such as linear regression, lasso regression and hidge regression algorithm. They used different parameters such as car name, year of purchase, present price, distance in km, fuel, seller type, transmitter type, owner of cars. They get accuracy of 83.65%, 87.99% and 84%. In this the major drawback is less no. of data is used.