

## ABSTRACT

As the price of new cars becomes more expensive, people prefer to buy used cars rather than new cars, which has an impact on creating business opportunities. The price of a used car can be influenced by the specifications of the car itself, such as the year the car was produced, the price of the first car released, mileage, transmission used, type of fuel, type of seller, and the number of previous car owners. The many specifications that cars have confuse used car sellers in determining the nominal price of the car to be sold. To overcome the challenges in predicting used car prices, this research proposes the use of the Random Forest algorithm. The aim of this research is to develop an accurate and effective used car price prediction model. This research uses a dataset from the Kaggle platform which was obtained from used car price data registered on the CarDekho and OLX websites. On the dataset, data preparation processes are carried out such as data cleaning, data selection and data transformation. The results of predicting used car prices using the Random Forest algorithm obtained the best performance using GridSearch including  $n\_estimator = 200$ ,  $max\_depth = 30$ , and  $min\_samples\_split = 2$ . Model evaluation shows an MAE value of 0.8019 and MAPE 15.33%. The random forest model in this research was built in the form of a website using Streamlit so that it can be used to determine used car price predictions

**Keywords** : Used Car, Random Forest, GridSearch, Streamlit