Used Car Pricing

Project Proposal

Question: How much is a used car worth?
Dataset: https://www.kaggle.com/austinreese/craigslist-carstrucks-data

Nowadays, many dealers have agents to help them estimate the price of used cars. The agents must have sufficient knowledge about the market and it usually takes months or even years for them to be experienced enough to make the estimations. What the agents usually do is to find transactions with similar year, make and condition for reference, usually taking much time. Meanwhile, when individuals would like to sell their cars, without much information about the market, they are confused about how to set an appropriate price.

In this project, we would like to develop a model that helps to evaluate the prices of used cars for the dealers and individuals. We are going to use the dataset that includes the sales data from Craigslist, which is the world's largest collection of used vehicle sales. This dataset contains more extensive and comprehensive information compared to that accessible to the agents. It includes city, year, make, condition and some other variables that are critical when estimating the car price.

Both individuals and car dealers might care about this question and this model will bring more comprehensiveness, more convenience and higher efficiency. Some bias might exist in a single transaction that influence the agent's future estimation, which would be avoided with large amount of data. With a fast speed of computation, the dealers no longer need much experienced agents to do the estimation, just have one person entering the data instead. Moreover, individuals do not have to ask several dealers for price which brought them much convenience.

This model will take large amount of existing data, find a particular pattern and make predictions of price with given variables based on the observed pattern, which has similar logic as how the agents make estimation. Since machine could deal with big data with higher speed, we firmly believe that it could successfully take the job.