**Create-A-Thon**

|  |  |
| --- | --- |
| **Team Name** | ERUDITE |
| **Team Members** | Anshu Trivedi  Afroz Chakure  Roopal Dubey  Manubhav Jain |
| **Theme** | Price Prediction |

**One line pitch of your idea**

Car price prediction model based on ML eased with use of mobile application.

**Problems, you are solving**

Car selection has become an ordeal, so our will help the customer to the variant according to his desire and dream. In today’s scenario people while buying a car are often cheated by the seller or the dealer as they are asked to pay a lot more than the car’s price,our model aims to provide them a better picture of the price of the car before consulting the dealer .This will also help the seller(people those who are selling their car ) to estimate how much will they earn after selling the car.

**Description of Solution/Product provided**

We had tried various algorithm of ML to predict the price of a car based on the various factors

like the car’s Mileage, Engine capacity, Owner type, Brand, Location , Year, Kilometers Driven,

Fuel Type, Owner Type, Power and seats. We are interpreting the result with the help of

RandomForest Algorithm as this algorithm involves ensemble learning to give the better result

compare to other algorithms such as Decision Tree and Linear Regression, This algorithm

predicts the more accurate results as this is a combination of other algorithms. Android provides

interactive interface to the user and we are trying to make the display more user friendly.

We will be using Android as the means to provide input to the Algorithms and will try to output

the prediction on the Android Application.

### Libraries Used

* Numpy (for Numerical Analysis)
* Pandas (for handling data files)
* Matplotlib (for visualizations inline & figure settings)
* Seaborn (for better relational visualizations)
* Scikit Learn (for model building & data pre-processing )

Android Studio

**Competitors (Put it simply using SWOT Analysis)**

The main benefits of this model includes :

1. This will help companies to restrict the selling price of the used car being posted by the customer in their respective websites.

2. Companies can provide better visualization to the customer to understand the selling price of their car.

3. Companies can have fraud customers who are posting cars for higher prices.

4. Companies can expand their network based on the number of the cars being sold the next year by prediction.

While working on the dataset we are trying to improve the accuracy of the model by providing sufficient data , removing the outliers, taking care of the overfitting problem and tuning the parameters. We are expecting accuracy of more than 90% .

Since the algorithm has it’s limitations ,there is chance of 6%-7% of wrong prediction.

Python to Android interface is complex for huge dataset and complex python libraries.

**What innovation are you bringing?**

We are trying to make the model more interactive by adding visualizations and also accessible to everyone by converting it to android application. We are making the inputs suitable for the algorithm so that it could provide us with better results. We have included efficient ways to deal with the missing values. We are combining all the possible parameters to get perfect score.