Data Analysis & Prediction Model

On Automobile Industry

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Problems Statement



ENGAGE 2022

CHALLENGES

SCHEDULE

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Engage 2022

Intern Engage is a program for engineering students across India graduating in 2024. It is designed to provide a platform for engineering students to accelerate their growth and foster industry-relevant skills through mentorship, coding challenges, workshops and networking opportunities.



About Project



Technology used

Front End

• HTML, CSS, JS

Backend

- Numpy, Pandas, sklearn, Matplotlib
- Flask for connection

For Prediction

 Algorithm used- Decission Tree Regression

Demonstration

Key Features

Price Prediction

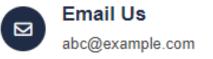
- Predicting the selling price for Automobile Car for customer
- Predicting suitable price at which car should've launched.

Segmentation analysis

 Analysis of how different segments of buyers effect the sale.



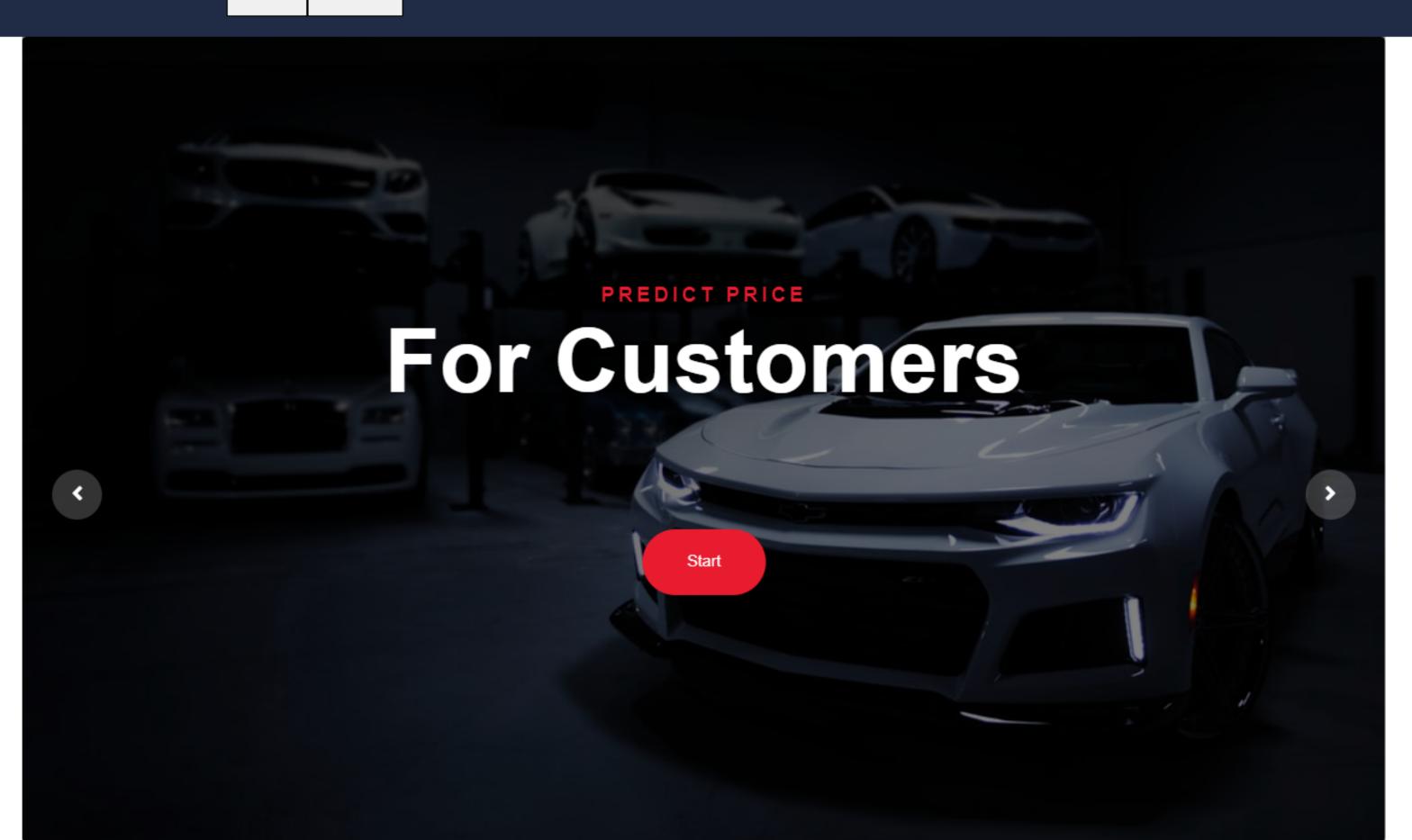




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ANALYSIS

Automobile Customer Segmentation Classification

Segmentation Frequency

Inference: Segment D has highest frequency while Segment B has lowest.

There is a minute difference between the four segments' frequency

SEGMENTATION FREQUENCY

Gender Frequency

Inference: Male audience have higher usage frequency than that of female in terms of automobiles.

Male audience= 54.9% while

Female audience= 45.1%

GENDER FREQUENCY

Marriage Frequency

Inference: Married couples prefer automobiles more than unmarried Marriage perentage is 57.6% while unmarried audience occupies the other 42.4%

MARRIAGE FREQUENCY

Profession Frequency

Inference: The profession Artist has highest frequency of using Automobiles with 31.6% occupancy Homemakers have least involvement of only 3.1%

PROFESSION FREQUENCY

Spending Score Frequency

It is the score(out of 100) given to a customer by the mall authorities, based on the money spent and the behavior of the customer.

Inference: Most of the customer segments have low spending score.

SPENDING SCORE FREQUENCY

Age Distribution

Inference: According to our analysis, buyers that are ages 25 to 45 purchase most new vehicles.
Graph plotted is bell shaped with its peak at the age around 40.

AGE DISTRIBUTION

Graduation Frequency

Most of the Audience buying vehicles are graduated

Inference: 61.8% of total population of buyers are graduated.

GRADUATION FREQUENCY

Family Size Distribution

Inference: According to our analysis, smaller families of 1 to 2 members buy vehcles more preferably
Graph plotted on the basis of analysis is a skewed right histogram.

FAMILY SIZE DISTRIBUTION

OUR BLOG

Latest News & Articles



1955 Mercedes-Benz SLR: The \$143 Million Coupe

Cars are a matter of pride for many. That's why enthusiasts do everything in their power to make their rides memorable. From expensive models to hefty modifications, each addition to the collection is like a status symbol. Probably this is the reason why a vintage Mercedes Benz coupe was sold for as much as 1,100 crores! Don't believe us? Read on.

click here!

🚨 SANKUL NAGPAL | 🧠 41 Reads



Car Color With The Best And The Worst Resale Value In India

Depending on the colour of the vehicle, the resale value of the vehicle may vary in the long run. With the heart, you'll be choosing the colour that is your favourite or a head that will be a little easy on your wallet in the long run. So, let's have a look at the car colours that have the best and the worst resale value in India.

click here!

♣ UTKARSH BHARDWAJ | ♠ 66 Reads



Tata Avinya Electric Car | Everything You Need To Know

When it comes to the future of transportation, two and four wheelers to be precise, battery electric vehicles do seem promising. Now, in order to cash the upcoming opportunity, carmakers are putting their kith and kin into researching and developing electric cars. Similarly, the Indian carmaker Tata, who already has an upper hand in the Indian electric vehicle market, has set foot with a new concept of an electric car, the Tata Avinya.

click here!

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ABOUT US

Price Prediction

We predict the possible market price for a car:

- Valuable price at which customer can sell their car on the basis of its past usage and other major factors.
- Price range between which a manufacturer should launch the car based on its salient features





Data Analysis

we have analysed the preferences of automobiles by different segments of user:

- Plotting of frequency graphs of: Segmentation, Gender, Marriage & Profession
- O Distribution graph of : Age, Work Experience & Family size

Get Code



YEAR	
3	
Showroom Price(in Lakhs)	
7.628472	
Kilometers Driven	
86947	
Number of previous Owners	
0	~
Fuel Type	
Petrol Petrol	~
Are you Dealer or Individual	
Individual	~
Transmission Type	
Manual	~

Calculate selling price

PREDICTION (For Manufacturer)

Car Length (in inches)	
174.040368	
Car Width (in inches)	
66.907905	
Horse Power	
104	
Bore Ratio	
9.329756	
Engine Size	
126	
Curb Weight (in grame)	
2555	
Wheel Base (in cm)	
96.756585	
City MPG	
25	
Highway MPG	
20	
90	v
50 Aspiration	v
So Aspiration Standard	٧
So Aspiration Standard Fuel Type	
So Aspiration Standard Fuel Type	
Aspiration Standard Fuel Type Car Body Type Convertible	v
Aspiration Standard Fuel Type Car Body Type	v
Aspiration Standard Fuel Type Convertible Car Body Type Convertible Drive Wheel	¥
Aspiration Standard Fuel Type Car Body Type Convertible Drive Wheel	¥
Aspiration Standard Fuel Type Car Body Type Convertible Drive Wheel Rear whoel-drive Engine Type	*
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Aspiration Standard Fuel Type Car Body Type Convertible Drive Wheel Rear-whool-drive Engine Type Dual overhead-care Engine Number	>
Aspiration Standard Fuel Type Car Body Type Convertible Drive Wheel Rear-ehoel-drive Engine Type Dual overhead carn Engine Number	>

You can sell this car at Rs.1218956.1

Calculate selling price

THANK YOU!!