



Data Analysis & Prediction Model

On Automobile Industry

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Problems Statement

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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- Decision 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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PREDICT PRICE

For Customers



Start

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 percentage 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 vehicles 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.
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About Us

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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

[Get Code](#)

Data Analysis

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

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

[Get Code](#)

PREDICTION (For Customer)



YEAR

8

Showroom Price(in Lakhs)

7.628472

Kilometers Driven

36947

Number of previous Owners

0



Fuel Type

Petrol



Are you Dealer or Individual

Individual



Transmission Type

Manual



Calculate selling
price

You can sell this car at Rs.4.5 lakhs

PREDICTION (For Manufacturer)



Car Length (in inches)

174.049258

Car Width (in inches)

45.907905

Horse Power

104

Bore Ratio

3.329756

Engine Size

135

Curb Weight (in grams)

2050

Wheel Base (in cm)

98.756585

City MPG

25

Highway MPG

30

Aspiration

Standard



Fuel Type

Gas



Car Body Type

Convertible



Drive Wheel

Rear wheel drive



Engine Type

Dual overhead cam



Engine Number

2



Range of Car

Medium



Calculate selling price

You can sell this car at Rs.1218956.1

THANK YOU!!

