

# **CVERM:Car Value and Efficiency Rating Model**

MINOR PROJECT SYNOPSIS

**BACHELOR OF TECHNOLOGY**

Information Technology

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## **1.Introduction**

The Car Value and Efficiency Rating model is a blended machine learning model that combines fuel efficiency and car price prediction. We will use a large dataset of car features, such as engine size, weight, and horsepower, as well as historical pricing and fuel efficiency data.

In this project to predict fuel efficiency rating we will use features such as engine size, horsepower, weight etc., while to predict car price or its market value we will consider factors such as car age, mileage, and other features.

Once the separate predictions are made through our model we will combine them to create an overall score which will take into account both fuel efficiency and car price. This score can be used to rank or compare different cars, helping buyers to make more informed and integrated decisions based on their budget and individual preferences.

Further in this project we will try to deploy the CVERM as a web-based tool that allows user to input their preferences and receive recommendations based on their needs and budget.

### **Rationale:**

This model will address two significant concerns of car buyers: Fuel efficiency and price.

By combining these two factors into a single rating, it can help buyers to make more informed decisions about which cars to produce. This will be useful for those who are concerned about the long-term costs of car ownership, as fuel efficiency is one of the most significant expenses associated with owning a car.

## **2.Objectives**

1. To collect data from websites through web scraping and process data for suitable analysis.
2. To design a machine learning model that predicts the fuel efficiency and price of a used car separately.
3. To combine the predictions to create an overall score that ranks cars based on their value for money.
4. To deploy and design a user-friendly website.

### **3.Feasibility Study**

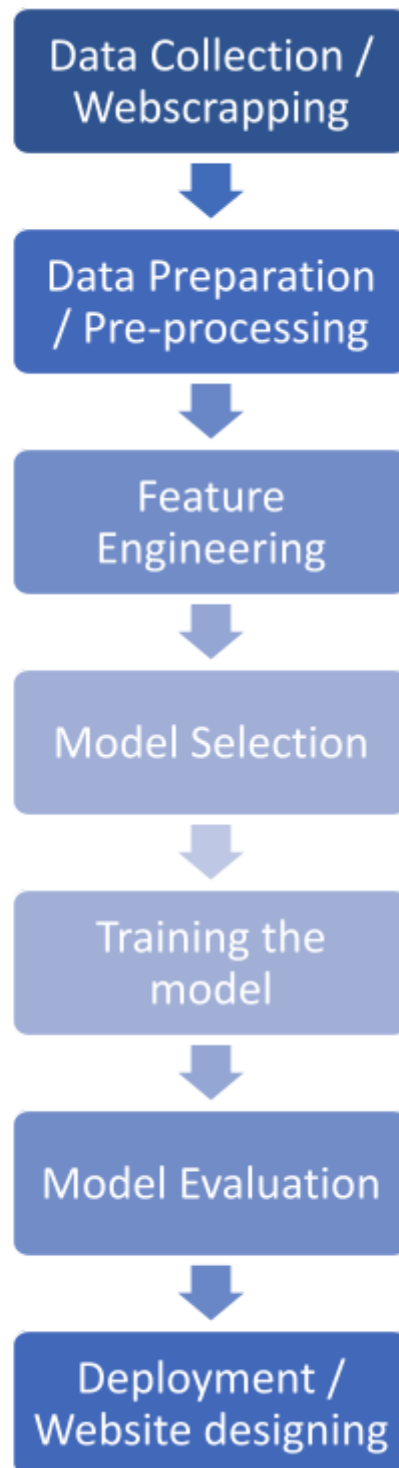
The feasibility of this project would depend on various factors, such as the availability and quality of data, the accuracy of the machine learning or predictive algorithms, and the ease of use for users.

One potential challenge in implementing this is ensuring the accuracy of the predictions. This would require a large dataset of reliable information on factors that affect fuel efficiency and car prices, as well as an accurate algorithm to analyse this data and make predictions.

Another factor to consider is the usability of the model for potential users. The model would need to be designed in a way that is easy to understand and is accessible to a wide range of users.

While there may be many challenges in implementing CVERM, the benefits of helping buyers make more informed decisions about fuel efficiency and price could make it a worthwhile attempt.

#### 4. Methodology / Planning of work



Overall, the work involves collecting and preprocessing data, selecting appropriate machine learning algorithms, training, and evaluating the model, and deploying the model for use by car buyers.

## **5.Facilities required for proposed work**

1. Python programming language: Python is a popular language for developing machine learning models and has a wide range of libraries and frameworks that can be used for data processing, modelling, and deployment.
2. Machine learning libraries: There are several machine learning libraries available in python such as scikit-learn, etc that can be used to train and evaluate the CVERM.
3. DaTa visualization tools: Tools like Matplotlib and Seaborn can be used to visualize and analyse the data to identify patterns and relationships between the car price, fuel efficiency, and other factors.
4. Cloud computing platforms: Platforms like AWS and Google Cloud can be used to host the Caver model and make it available through web applications.
5. Website designing platforms: Frameworks like Django and flask can be used to design the website or web applications which will be easily accessible to the users.

## 6.References

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