**Project Title: Fuel Consumption & Efficiency Using Machine Learning**

### ****Introduction****

### This project predicts vehicle fuel consumption (L/100 km) using machine learning based on features like engine size, fuel type, and CO2 emissions. The model is deployed via a Flask API for real-time predictions.

#### **Objective:**

To predict the fuel consumption of vehicles based on various engine and performance-related attributes using machine learning models.

#### **Problem Statement:**

Fuel efficiency is a crucial factor in automobile design, environmental conservation, and cost savings. By leveraging data science, we aim to develop a model that accurately predicts a vehicle’s fuel consumption, aiding manufacturers and consumers in making informed decisions.

#### **Dataset Description:**

The dataset consists of multiple Things like:

* Engine Size
* Cylinders
* Fuel
* Transmissions
* Vehicle class
* CO2 emissions  
  The target variable is **Fuel Consumption (L/100 km)**.

### ****2. Data Collection & Preprocessing****

#### **Data Source:**

The dataset (.csv) file was easily made us available by Mayur Sir.

I used jupyter notebook for the making of linear regression model.

#### **Preprocessing Steps:**

* No missing values
* Different categorical variables (e.g., fuel type, vehicle class)
* Too many numerical features
* Split data into training and test sets

### ****3. Model Development****

#### **Algorithms Used:**

* **Linear Regression** model

### ****4. Model Deployment****

#### **Deployment Method:**

* Developed a **Flask API** to serve the model
* Used pickle to serialize the trained model

**5.Steps to run the deployed model**

My model didn’t run successfully as the vscode was stating that I must use different platform for deployment purpose.  
My server was on development side.

**6. Submission Details**

<https://github.com/Ricky79135/Fuel-Consumption>