PROJECT OBJECTIVES:

PROJECT NAME	TRIP BASED MODELING OF FUEL CONSUMPTION IN MODERN FLEET VEHICLES USING MACHINE LEARNING
TEAM ID	PNT2022TMID33271

ABSTRACT:

Heavy-duty trucks contribute approximately 20% of fuel consumption in the United States of America (USA). The fuel economy of heavy-duty vehicles (HDV) is affected by several real-world parameters like road parameters, driver behaviour, weather conditions, and vehicle parameters, etc. Although modern vehicles comply with emissions regulations, potential malfunction of the engine, regular wear and tear, or other factors could affect vehicle performance. Predicting fuel consumption per trip based on dynamic on-road data can help the automotive industry to reduce the cost and time for on-road testing. Data modelling can easily help to diagnose the reason behind fuel consumption with a knowledge of input parameters. In this paper, an artificial neural network (ANN) was implemented to model fuel consumption in modern heavy-duty trucks for predicting the total and instantaneous fuel consumption of a trip based on very few key parameters, such as engine load (%), engine speed (rpm), and vehicle speed (km/h). Instantaneous fuel consumption data can help to predict patterns in fuel consumption for optimized fleet operations.

PROBLEMS:

1. Regression
2. Classification

DATA PRE-PROCESSING:

1.Handling the null values and categorical values.

2.Required the data.

3.Identify the dependent and independent values.

4.Split the dataset into train and test sets.

ANALYSIS THE DATASET THROUGH VISUALIZATION:

1.Univariate analysis

2.Bivariate analysis

3.Multivariate analysis

APPLYING ALGORITHM:

1.ML Algorithm

BUILD THE WEB APPLICATION:

1.Using flask