Proposed Design Phase-I

METHODOLGY PROPOSED:

The collection of dataset was manually done from various automobile websites. The missing values (Noise) was removed and the clean data was used for selection of attributes. PC analysis was done and regression technique was applied using data mining tool.

EXISTING METHOD:

Methods used for vehicle detection can be divided into two groups - intrusive and non-intrusive. Intrusive sensors include inductive loops, magnetometers, micro-loop probes, pneumatic road tubes, piezoelectric cables and other weigh-in-motion sensors. These devices are installed directly on the pavement surface, in saw-cuts, in road surface holes by tunneling under the surface or by anchoring directly to the pavement surface as vehicle detection is an important process in intelligent transport management systems, as it allows the collection of big data on vehicles' speeds and weights as well as the traffic intensity, which helps to enhance smooth transportation and to reduce road accidents. Non-intrusive and intrusive sensor technologies are often employed for monitoring. A laser sensor, a temperature sensor, or an image-based sensor have been used for vehicle detection that is based on a change in laser light intensity, temperature value, or imaging property due to the vehicle appearance.

IMPLEMENTATION TECHNIQUE DETAILS:

1.Data Collection

ML depends heavily on data, without data, it is impossible for an “AI” to learn. It is the most crucial aspect that makes algorithm training possible. In Machine Learning projects, we need a training data set. It is the actual data set used to train the model for performing various actions.

2.Data Pre-processing

Data pre-processing is a process of cleaning the raw data i.e. the data is collected in the real world and is converted to a clean data set. In other words, whenever the data is gathered from different sources it is collected in a raw format and this data isn’t feasible for the analysis. Therefore, certain steps are executed to convert the data into a small clean data set, this part of the process is called as data pre-processing Follow the following steps to process your Data

- Import the Libraries
- Importing the dataset
- Taking care of Missing Data
- Label encoding
- One Hot Encoding
- Feature Scaling
- Splitting Data into Train and Test

3. Model Building

There are several Machine learning algorithms to be used depending on the data you are going to process such as images, sound, text, and numerical values. The algorithms that you can choose according to the objective that you might have it may be Classification algorithms or Regression algorithms.

4.Application Building

In this section, we will be building a web application that is integrated into the model we built. A UI is provided for the users where he has to enter the values for predictions. The enter values are given to the saved model and prediction is showcased on the UI. Previously we are saved this file as “regression.pkl”. We have seven independent variables and one dependent variable for this model.