**Unsupervised Learning**

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**Introduction**

The current task at hand is to use unsupervised learning algos in order to perform classification on attacks within Closed Area Network of the car, within which we contain some injected values, goal is to detect these.

For this assignment I used Kmeans clustering and Isolated Forest models. Before that I had to first create the datasets.

**Data Preparation**

In order to create the dataset I used the python script provided that reads the logs files and then creates the Data frames. I simply wrote the contents of these data frames to csv files.

Then created an ipynb file that implements the necessary tasks for this assignment. Initially it loads the data from these csv files. And then drops the Attack column since this is not to be provided for Unsupervised learning models.

**Kmeans and Isolated Forest**

I created two methods in general, a method that returns a fitted model on current dataset and a method that will plot a scatter plot for each of the trained model and I have three models. For each of these. And I tried to note my observations as I go through the required tasks.