**ECE 9063 Assignment 1**

**Problem Statement**

When people want to sell their used car on the market, they often need a fair estimate of the car’s value so that both the seller and buyer can benefit from the transaction. In this report, the forecasting problem is defined as follow: predict the price of a used car in the current year based on a set of attributes.

**Dataset**

Link to the data:

https://www.kaggle.com/adityadesai13/used-car-dataset-ford-and-mercedes

The folder mentioned above has many files for each of the car manufacturers. In this report, the dataset selected is “Audi.csv” which is the file specific for Audi cars. It contains nine attributes including car model, registration year, price, transmission, mileage, fuel type, road tax, mpg (miles per gallon), and engine size. The dataset has 10668 samples. Noticeably, car model, transmission, and fuel type have categorical data that needs to be transformed into numerical values. All the attributes in the dataset are considered as they are all important factors to be considered in the real-world business.

**Algorithms**

The first algorithm is multivariate linear regression. In this hypothesis, multiple independent variables contribute to the dependent variable. In the context of car, independent variables are registration year, mileage, road tax, mpg and engine size while dependent variable is the price.

The second algorithm is support vector regression.

**Evaluation Procedure**

**Comparison of Results**