**ECE 579 Intelligent Systems**

**Project Initiative Report**

**Project Title:** MNCsStock Market Analysis

**Contributions and Responsibilities:**

1. **Devyani Deore:** Devyani would be involved in Data Extraction, Data Pre-Processing, and partly in the Exploratory Data Analysis. It would be a combination of understanding the data by performing analysis of the structure and the properties transformation, and cleaning of data wherever necessary**.**
2. **Sai Sanjith Sivapuram:** Sanjith will be involved in performing the other necessary Exploratory Data Analysis to understand the features and behavior of the data and perform appropriate feature extraction and modeling on the data with retrieval of evaluation metrics for the data.

Both teammates would be equally involved in the documentation and presentation of the project.

**Project Description:**

In this project, our focus will be on applying various predictive models to stock market data, primarily from multinational corporations (MNCs). Numerous models and strategies have been employed on stock market data to yield impressive outcomes, such as predicting a company’s closing price. Our approach involves a thorough examination and analysis of diverse stock market datasets from MNCs. We aim to understand the different models used, and the feature extraction methods implemented, and explore additional techniques that could be applied to the data. This includes normalization methods and data smoothing techniques, all to enhance the accuracy of predictions on the stock market dataset.

**Data Description**

* The project utilizes stock market data sourced from [Kaggle](https://www.kaggle.com/code/faressayah/stock-market-analysis-prediction-using-lstm/input) for various companies, such as **Tesla, Apple, S&P 500**, etc.
* The dataset comprises **1669 samples for each stock.**
* There are two distinct classes: price and volume.
  + The **price class** signifies the **closing price or index** on a specific day.
  + The **volume class** denotes the corresponding **trading volume** in shares.
* The dataset is characterized by the following attributes: Date, Open, High, Low Close, Volume, and name.