**Dataset Description and Problem Statement**

**Dataset**: Yahoo Finance

The dataset for this project will be obtained from the Yahoo Finance API, which provides historical stock price data for a wide range of publicly traded companies. The dataset includes essential features such as opening and closing prices, high and low prices, trading volume, and adjusted close prices. These data points will serve as the basis for our stock price prediction models. No APIs are required to retrieve data from yfiance.

**Objective**:

The objective of this project is to compare and evaluate different prediction models for stock price forecasting. We will explore the performance and accuracy of Polynomial Regression and Time Series Forecasting just to review the course materials first, and if time allows, LSTM and Bayesian methods would be further studied. By implementing these models and analyzing their results, we aim to identify the most effective approach for predicting future stock prices.

**Stakeholders**:

Investors and Traders

Financial Analysts

Financial Institutions

**KPIs**:

General backtesting

Vlatility/Returns

Accuracy of predictions

Mean Squared Error (MSE)

Return on Investment (ROI)

Computational efficiency

By conducting a thorough analysis of the Yahoo Finance dataset and implementing various prediction models, this project will provide insights and guidance for stock price prediction. It will enable stakeholders to make informed investment decisions, enhance their financial analysis capabilities, and improve trading strategies.