Capstone Two: Quantitative Stock Market Analysis

My second capstone project aims to find the most important attributes and factors that help individuals decide on the most optimal time to buy and sell stocks for the highest probability of earning maximum profit within a given time frame. Essentially, the project aims to answer the question: How do people make the decision for the best time to buy or sell a stock with a high rate of earning profit? Surprisingly, some individuals tend to invest in stocks without taking crucial information into account. Even investors with knowledge and experience in investments find it difficult to decide whether the attributes of a stock indicate the proper timing for investing. Thus, the analysis of historical stock market data potential patterns and indications for properly buying and selling stocks at a more optimal timing. The end goal of the project is to show individuals the important factors of a stock to observe before making a decision on investing.

The data comprises historical prices and attributes of prevalent stocks. Big stocks were chosen as the data in consideration of the volatility. All the data were found from an online stock database that gives basic details such as the opening and closing price. In addition to the basic data, more attributes such as the 200-day moving average will be calculated and added in order to find the weight distribution of importance in the final predictive model. In other words, the predictive model will find the attributes that correlate the most to the rise or fall of a stock.

The measure of success will be conducted through the accuracy of the stock's price prediction without giving the predictive model the price. There are many constraints to this project, and the main constraint will be unknown factors not taken into account for the model due to the sheer quantity of factors that may affect a stock's price. Once the accuracy reaches a satisfactory level, the project will be deemed a success. The code and predictive model as well as

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a report and slidedeck will be created to share and show the stakeholder or individuals interested in making stock investments.