**Synopsis on**

# Analysis of Financial Data Using Machine Learning algorithms

**SUBMITTED TO**

SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE


**Branch: Computer Engineering**

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## 1. Abstract:

As we know stock market attracts every investor. But learning stock market trends is time consuming. Also stock is so much unpredictable. This software is intended to be used by investors with less time and less knowledge of stock market. Through our project we are aiming to predict the stock market trends for a particular number of days. This includes getting current stock values, logging details of the stock rates, assist in buying of stocks and suggestions about a particular stock by predicting the approximate trend of the stock market based on the background of the company.

## 2. Motivation:

Stock market price prediction is actively researched by the largest financial corporations in the world also we can say it is a problem that has potential to be worth billions of dollars. It is a significant problem because it has no clear solution. Moreover, attempts can be made applying various machine learning techniques. The project allows techniques for real world machine learning applications including acquiring and analysing large datasets using a variety of techniques to train the program and predict the potential outcomes.

## 3. Objectives:

- To view the current stock market status by providing graphs and charts
- To develop a stock prediction system which will assist the investors for taking pre-informed decisions by stock predictions
- To provide a simplistic user interface which will assist and guide the investor to understand the stock market easily

## 4. Planning of Work:

Collecting the stock market related information, finding the appropriate dataset, performing data pre-processing and cleansing, calculating the technical indicators, investigating the relevant technical factors using correlation techniques, finding and experimenting a suitable machine learning algorithm, training the algorithm with the input as resultant dataset of above, running the test cases and observing the quality and efficiency of output, preparing the frontend, optimizing the algorithm and output with minimum latency, bandwidth usage and faster results. Further the outputs will be evaluated and testing of the project will be carried out.

## 5. Resources and Limitations

The proposed system consists of Stock data which is nothing but a record calculated for a single day, which represents the lowest price and highest price the stock value went, [7] also the stock opening price which is the price at which a security first trades upon the opening of an exchange on a trading day, [7] and closing price is security's closing price on the preceding day of trading. Previous close can also refer to the prior day's value of a stock, bond, commodity, futures or option contract, market index, or any other security, [7]. And volume which is the number of shares or contracts traded in a security or an entire market during a given period of time, [7]. Ideally these values should be calculated from the Initial public offering of a given company to make predictions and analysis more accurate and reliable. Hence initially resources for proposed system only contains this data related to available companies which is easily available on open source sites. Other software

resources and dependencies include Python 3 pandas, matplotlib, numpy and other libraries for running the model on the desired system with prescribed system requirements.

The limitations for the proposed system might include system's hardware which are if comparatively less to the given minimum requirements then it will take more time to compute required results. System might not perform the way it should and the algorithm will not excel its purpose due to low hardware specifications. Data set is collected from open source sites and that's why it is unreliable. So even if the algorithm is correct, the results can get wrong due to shady data.

## 6. References:


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