

# Visualizing and Forecasting Stock

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**Abstract** - The stock market is a place where you can buy and sell shares of publicly listed companies. Shares are also known as shares representing ownership in a company. A stock exchange is a link that allows for the purchase and sale of shares. Stock market forecasting is an act of trying to determine the future value of a company's stock. Stock market predictions are made possible with the help of machine learning. Allows you to analyze and predict future company stock prices. Many stock forecasting methods use a machine-by-line retrospective model. It is simple and easy to manage, but the main limitation of linear regression is that linear regression is linear prediction between dependent and independent variables that can be erroneous multiple times. It is also very sensitive to outsiders and creates overload of data. This project is about stock market pricing using a SVR model that will overcome the limit of the method used using line reversal. In line with editing the image representation using the SVR model, I also created a dashboard for this project to analyze stock. By using the dash, you can view the stock market image analysis that will work best **Keywords: Stock Market, SRM, Dash, Machine Learning, Python.**

**Keywords:** Forecasting, Prediction, SVR Model, Data Visualization.

## I. INTRODUCTION

A stock market is defined as a group of markets and trades in which the normal activities of buying and selling shares of public entities are performed. It is a place where stocks of companies listed in the public market are sold. The primary market is the place where companies float stocks in the general public on initial public offering (IPO). This is to make money. People in particular are buying stocks in anticipation of an increase in their value in the future. But there is always uncertainty in the stock market because people are not willing to invest in the stock market. So we need a strategy that can predict stock market prices, so that people can invest their money in the best stocks. This project is about stock market pricing using the SVM model and uses a dash to visualize stock market analysis that includes real value and predicted price as a web application. Dash is a great library framework that allows python to create interactive web dashboards. Dash

layout contains all HTML content. To use dashboard, we need to install parts of the dash.

## II. RELATED WORK

Traditional methods of stock market and stock market analysis Price forecasts include a basic, objective analysis previous stock performance and general reliability of the company itself, and the statistical analysis, which is its only relating to abbreviating numbers and identifying patterns in stock price variation. Then the predictions were reached with the help of Genetic Algorithms (GA) or Artificial Neural Networks (ANN's), however these fail to capture the correlation between stock prices in a type of long-term dependence. Another great one the issue of using simple ANNs to predict stock is the occurrence of explosion / disappearance of the gradient, where of a large network weight can be very large or even smaller (respectively), greatly reduce their convergence total value. This is usually due to two factors: weights start randomly, and weights are close the end of the network and it often changes much more than that those in the beginning. Another way to analyze stock markets is to reduce size of input data and use feature selection short-term algorithms for a set of key factors (such as GDP, oil price, inflation rate, etc.) which have a significant impact on it stock prices or exchange rates in all markets. However, this approach does not consider long-term trading strategies as it fails to take all the history of trend into it account; in addition, there is no outlier provision adoption. Predicting this stock price offers great potential for profit which is a major source of research in this area. I even a part of the information per second of the stock price can lead to a lot of money. Similarly, in the case of repetition, an accurate prediction that may be of great benefit. This appeal to finding a solution has inspired researchers, that both industry and academics find a way to overcome problems such as flexibility, season and dependence, economics and in the market. However, platform prices and liquidity are less predictable, which is where technology comes in handy.

## III. LITERATURE SURVEY

In the stock market price forecast using the SVM model is explained. Pre-processing data is an important step in this paper. This paper was proposed to overcome corruption in one of the most common methods of machine learning, back

distribution. The main purpose of the paper is to extract the best possible stock price forecast. The paper seeks to highlight the broad advantages of the random forest and vector support machine (SVM). These are topics in machine learning. Researchers in various fields have a keen interest in conducting research on the topic of stock market pricing. Machine learning is one of the best methods used in various fields. It has a wide range of applications and is also used in the field of forecasting. In the stock market price forecast and machine learning plays an important and important role. In the stock market price forecast using SVM and consolidation studies are used. Here instead of taking the local database, the global stock market database is used. Paper uses a global data set. The various machine learning strategies that can be used to predict the stock market are described. It is a comparison of different machine learning techniques. Vessel support equipment, line retrieval, prediction using decision poles, expert weight and online weight are the ways discussed in the paper. The advantages and disadvantages of each of these methods are described in the paper. uses a linear regression method, which is one of the machine learning algorithms to predict future stock prices. Various open-source libraries and predictive algorithms are used to make the unpredictable format into a predictable object. proposes a professional machine learning algorithm. In line with that it is proposed that more in-depth study methods are developed. Emotional news and historical prices are two sources of data considered on paper. Ticket data and ten-year news data were collected. After selecting a data source, the data processing step should be used. After pre-processing of the data, it is necessary to synchronize the news with the marker data and then produce the feature production. Small, high, medium and general deviations are the factors considered in the paper. After the data extraction feature customization is done. The project also has feature of favorite stock where user must add the stock that he has to buy at some particular in favorite list and when the stock will come in that specific range the user will be notified and he can buy stocks.

### 3.1 Proposed System

1. Data: YFinance Yahoo Finance provides real-time streaming quotes for multiple trades. Real-time data is available during the hours of the exchange market, and in some cases during the pre-market and post-market hours. However, not all markets will be broadcast in real time.
2. Plotly: Plotly is used for the purpose of visualizing. The Pandas Library is used as a data analysis and deception tool. It takes data as CSV and creates a data frame.
3. Dash: Dash is an open Python framework used to build web analytics applications. It is a powerful library that facilitates the development of data-driven applications. It is especially useful for Python data scientists who are not very familiar with web development. Users can create amazing dashboards in their browser using the dashboard.
4. Heroku: Heroku is a cloud-based platform-based platform (PaaS) platform. Developers use Heroku to download, manage, and rate modern applications. Our platform is beautiful, flexible, and easy to use, providing developers an easy way to market their applications. Heroku is fully managed, giving developers the freedom to focus on their core product without the hassle of maintaining servers, computers, or infrastructure. Heroku's experience provides services, tools, workflow, and polyglot support — all designed to improve engineer productivity.

## IV. VISUALIZATION OF STOCK PRICE, MOVING AVERAGE AND PREDICTION

Closing and Opening Price vs Date



Exponential Moving Average vs Date

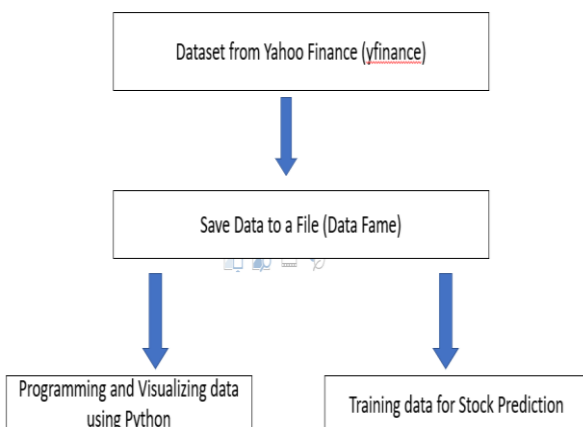
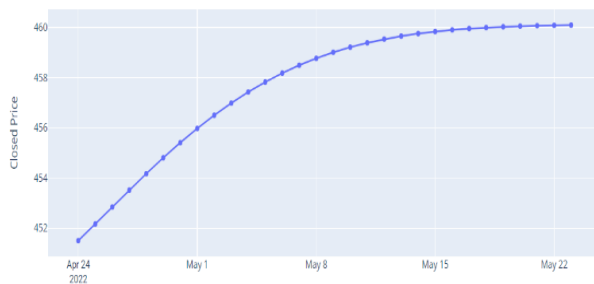


Figure 1: Data Flow

Predicted Close Price of next 30 days



## V. CONCLUSION

The popularity of stock market trading is growing rapidly which encourages researchers to discover new ways to predict using new strategies. The forecasting method not only helps researchers, but also helps investors and anyone associated with the stock market. To help predict stock indicators a good precision prediction model is required. In this proposed program I have used some of the most accurate forecasting technology I use to assist investors, and anyone interested in the stock market by providing them with reliable information on the long-term stock exchange status.

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