



# VISUALIZING AND FORECASTING STOCK USING DASH FRAMEWORK

<sup>1</sup>Prof. Mangesh Manake,<sup>2</sup>Shital Pawar,<sup>3</sup>, <sup>4</sup>Onkar Nakate, <sup>5</sup>Viraj Bangar,<sup>6</sup> Swapnil kale

<sup>1</sup>Professor,<sup>2</sup>Student,<sup>3</sup>Student, <sup>4</sup>Student

<sup>1</sup>Computer Engineering,

<sup>1</sup>D. Y. Patil Institute of Engineering and Technology, Ambi Pune, India

**Abstract:** In modern financial market, the most crucial problem is to find essential approach to outline and visualizing the predictions in stock-markets to be made by individuals in order to attain maximum profit by investments. The stock market is a transformative, non-straight dynamical and complex system. Long term investment is one of the major investment decisions.

Though, evaluating shares and calculating elementary values for companies for long term investment is difficult. In this paper we are going to present comparison of machine learning aided algorithms to evaluate the stock prices in the future to analyze market behaviour. Our method is able to correctly analyze supervised algorithms and compare which algorithm performs the best to predict the future stock market prices in the market

**Keywords:** Stock market, machine learning, Supervised learning algorithms, Random forest, Logistic regression, K-NN

## I. INTRODUCTION

Exchanging the stocks on money markets is one of the significant speculation exercises. Already, scientists developed different stock examination system that could empower them to envision the bearings of stock esteem development. Predicting and foreseeing of significant worth future cost, in perspective of the present cash related information and news, is of colossal use to the financial pros. Financial masters need to know whether some stock will get higher or lower over particular time-period. To obtain the accurate output, the approach used is to implemented is machine learning along with supervised learning algorithms. Results are tested using different types of supervised learning algorithms with a different set of a features.

## II. MOTIVATION

Predicting this stock value offers enormous profit opportunities which are a huge motivation for research in this area. Even a fraction of a second's knowledge of a stock's worth can result in large earnings. Similarly, in the repeated context, a probabilistically correct prediction might be highly profitable. This attractiveness of finding a solution has prompted researchers, in both industry and academics to find a way past the problems like volatility, seasonality and dependence on time, economics and rest of the market. However, the platform's prices and liquidity are highly unpredictable, which is where technology comes in to aid

## III. PROBLEM STATEMENT

The accuracy of the existing stock market prediction models is relatively low because only a small dataset is used for training, the results will be less accurate. There is still a need to continually explore more new features that are more predictable. Even though multiple algorithms exist, there is no real-life implementation of these ideas for the beneficial of people. Efficient algorithms should be made available with easy accessibility and interface.

## IV. LITERATURE SURVEY

This paper is a survey on the application of neural networks in forecasting stock market prices. With their ability to discover patterns in nonlinear and chaotic systems, neural networks offer the ability to predict market directions more accurately than current techniques. Common market analysis techniques such as technical analysis, fundamental analysis, and regression are discussed and compared with neural network performance. Also, the Efficient Market Hypothesis (EMH) is presented and contrasted with chaos theory and neural networks. Finally, future directions for applying neural networks to the financial markets are discussed [1].

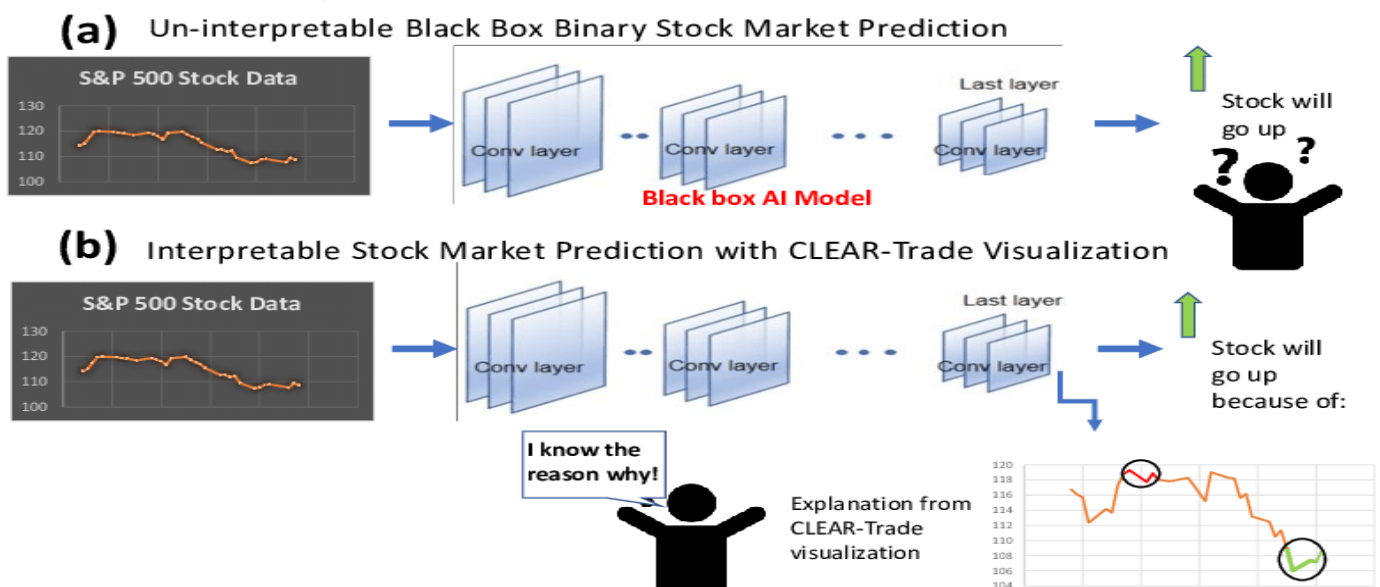
Table 1 Literature Review

Sr.No.	Name of Paper	Authors	Publication Name	Published On	Approaches
1.	“Data visualization and stock market prediction.”	Ashutosh Sharma, Sanket Modak, Eashwaran Sridhar	IRJET	Sep 2019	Financial market directly enhanced long-run Growth through financial intermediaries
2.	“News sensitive stock market prediction”.	Shazia Usmani, Jawwad A Shamsi	IEEE	23 March , 2021	Financial time series data encompasses dynamic and historical data .
3.	“Stock market prediction performance of neural networks”	Krishna Bhambani, Tanmay Jain, Dr, Kavita A. Sultanpure.	IEEE	14 February 2017	According to the efficient market hypothesis, stock prices cannot be forecasted by investors since market reflect all of the currently available information.
4.	“Machine learning stock market prediction series[1]”	Troy J. strader, John J. Rozycki	IEEE	July 3 2020	ANN, SVMs, or multi-method GA approaches are some of the most common techniques for tackling the problem of stock market prediction[1].

### V. PROPOSED SYSTEM

As per prediction system, developed in the stock price prediction to help investors in making financial decisions. In most researches it focuses on "lowest price buy", "highest selling price". On the "lowest buy" and "highest selling" strategy of stocks occurs when stocks are at the lowest price and sell shares when prices are highest. For stock price predictions ANN technique is used with back propagation the dataset was pre-processed and tuned up for real analysis. Hence, our admin can upload stock price history i.e. open price, highest price, lowest price and close price of the day. Paper will also focus on data preprocessing. Secondly, after preprocessing the data, System reads stock price history and gives input to the Back propagation algorithm. In addition, the proposed paper examines the use of the prediction system in real-world settings and issues associated with the accuracy of the overall values given. The back propagation gives output as final predicted rate comes. The proposed system can get the output of prediction list of stock price and graph of prediction table like that user can view the final predicted result. The successful prediction of the stock will be a great asset for the stock market institutions and will provide real-life solutions to the problems that stock investors face. To test BPNN method, mean square error is used to predict result and data reality. The backward propagation of errors, of back propagation, is a common method of training artificial neural networks and used in conjunction with an optimization method such as gradient descent. The method repeats in two phase cycle, propagation and weight update. During back-propagation phase the output after forward pass is compared with the expected output which is then used to adjust link weights. The output of the proposed system is to predict the list of stock price. At the end of system the user can view the final result of predicted value of stock market.

### VI. ALGORITHM



## VII. CONCLUSION

In the above paper, we inspected advancements in economic market predictions. By looking at different predictive models, we discovered that Logistic-regression is offering the capacity to predict and analyzing market movement direction more precisely than the other existing methods. Different models, for example, Random Forest and ARIMA have additionally turned out to be well known in stock market prediction. Random Forest demonstrated its fruitful application in classification work, ARIMA on time series prediction and financial related applications. K-NN model is also applied in the experiment which also show some good results in predicting stock market directions.

## VIII. ACKNOWLEDGMENT

This paper is supported by many people, some of whom have a direct role and some of them have an indirect way by publishing their research online which helped to understand this concept easily. We express our deepest gratitude, sincere thanks and deep feeling of appreciation to our Project Guide Professor Mangesh Manake, his presence at any time throughout the Semester, important guidance, opinion, comment, critics, encouragement, and support greatly improved this project work. We thank the college administration for providing the necessary infrastructure and technical support. Finally, we extend our heartfelt thanks to our friends and family members.

## REFERENCES

- [1] C. N. Babu and B. E. Reddy, "Selected Indian stock predictions using a hybrid ARIMA-GARCH model," 2014 Int. Conf. Adv. Electron. Comput. Commun. ICAECC 2014, 2015.
- [2] M. D. Shubhrata, D. Kaveri, T. Pranit, and S. Bhavana, "Stock Market Prediction and Analysis Using Naïve Bayes," Int. J. Recent Innov. Trends Comput. Commun., vol. 4, no.11, pp. 121–124, 2016.
- [3] X. Ding, Y. Zhang, T. Liu, and J. Duan, "Deep Learning for Event-Driven Stock Prediction," no. Ijcai, pp. 2327–2333, 2015.
- [4] K. A. Smith and J. N. D. Gupta, "Neural networks in business: Techniques and applications for the operations researcher," Comput. Oper. Res., vol. 27, no. 11–12, pp.1023–1044, 2000.
- [5] M. S. Babu, N. Geethanjali, and P. B. Satyanarayana, "Clustering Approach to Stock Market Prediction," vol. 1291, pp. 1281–1291, 2012.
- [6] A. A. Adebisi, A. K. Charles, A. O. Marion, and O. O. Sunday, "Stock Price Prediction using Neural Network with Hybridized Market Indicators," J. Emerg. Trends Comput. Inf. Sci., vol. 3, no. 1, pp. 1–9, 2012.
- [7] S. Kayode, "Stock Trend Prediction Using Regression Analysis – A Data Mining Approach," ARPN J. Syst. Softw., vol. 1, no.4, pp. 154–157, 2011.
- [8] A. Sharma, D. Bhuriya, and U. Singh, "Survey of Stock Market Prediction Using Machine Learning Approach," pp. 506–509, 2017.

