Stock Market Predictor Web Application

Harshita Singh[1], Sanjana Sahani[2], Tushar Maddheshiya[3], Sangam Prajapati[4], Suneel Yadav[5]

[1,2,3,4] *Computer Science and Engineering, Institute of Technology and Management, Gorakhpur, India.*
[5] *Assistant Professor Department of Computer Science and Engineering, Institute of Technology and Management, Gorakhpur, India.*

Abstract: *Stock price forecasting is a well-liked and significant subject in academic and financial research. The use of machine learning, which produces forecasts based on the values of current stock market indices by training on their prior values, is anew trend in stock market prediction technology. Multiple models are used by machine learning itself to facilitate and authenticate prediction. The study focuses on LSTM-based machine learning and regression for stock value prediction.*

Keyword: *Financial stocks, LSTM model, Regression analysis, neural networks, Predictive Analysis.*

I.INTRODUCTION

Every day, the "Stock Market" is covered in the news. Every time it achieves a new high or low, you hear about it. If are liable algorithm could be developed to forecast the short-term price of a certain stock, the rate of investment and business opportunities on the stock market may rise. Artificial neural networks and convolution neural networks, which have an average error loss of 20%, were formerly used to forecast stock prices. In this study, we will examine the viability of developing a recurrent neural network model that can more accurately forecast stock price. Additionally, if the response is YES, we will observe how trustworthy and effective will this model be .A stock market is a public market where you can buy and sell shares for publicly listed companies.

The stocks, also known as equities, represent ownership in the company. The stock exchange is the mediator that allows the buying and selling of shares. The entire idea of predicting stock prices is to gain significant profits. Predicting how the stock market will perform is a hard task to do. There are other factors involved in the prediction, such as physical and psychological factors, rational and irrational behaviour, and soon. All these factors combine to make share prices dynamic and volatile. This makes it very difficult to predict stock prices with high accuracy. In summary, Machine Learning Algorithms are widely utilized by many organizations in Stock market prediction organizations in Stock market prediction.

Problem Statement:

Before we start creating the programme to forecast stock market values, let's see the data on which we will be working. This section will look at Microsoft Corporation's (MSFT) stock price as provided by the Automated Quotations of the National Association of Securities Dealers (NASDAQ). The stock price information will be sent as a Comma Separated File (.csv),which may be opened in Excel or a spread sheet and analyzed there.

A machine learning/data scientist's responsibility is to examine the data and create various algorithms that may be used to extract patterns from the historical data of the Micro soft Corporation stock.

Research Objective:

The improvement of decision-making is the goal of this research. The purpose of this research is to create a better stock market analysis and prediction model. As a result, the goal of the study is to create a machine learning-based predictive model for predicting stock prices.

Scope of Study:

Our project's goal is to forecast stock market data using various algorithms and analyze how well they do this task. Making informed investing selections is advantageous for businesses and people. Stock market forecasting seeks to forecast future changes in a financial exchange's stock value. Investors will be able to earn more if share price movements can be predicted accurately.

II.LITERATURESURVEY

Overview: In the literature, there were two key markers for predicting stock prices. They are technical and fundamental

analyses. Both were employed in the stock market analysis. The current state of the stock market has a significant impact on the global economy. People from many walks of life, whether they come from business or academic backgrounds, have been drawn to the stock market with great success. The stock market's non linear character has made study on it one of the most important and popular topics worldwide. People base their stock market investment decisions on previous study, expertise, or predictions.

Adopting conventional methods like fundamental and technical analysis doesn't appear to guarantee the predictability's consistency and accuracy. The machine learning technologies as a result have emerged as a recent trend in stock market forecasting, with predictions based on current market values as a result of training on earlier values.

III.METHODOLOGY

There are three distinct trading schools of thought: fundamental, technical, and quantitative technical analysis, all motivated by the desire to forecast market moves and make money.

Fundament a analysis:

The investigation of economic variables that affect a stock's price is a component of fundamental research. A balance sheet and income statement are two examples of these components. The balance sheet is a type of financial statement that details the assets, liabilities, and shareholder equity of a corporation at a certain point in time. In essence, a company's balance sheet reveals to Intel what it owns, what it owes, and how much money investors have spent in it.

Technical analysis:

By using data on stock volume and price, technical analysis seeks to predict what other stockholders will do. To forecast future stock prices, technical analysts employ a variety of different sorts of indicators derived from historical stock price and volume data.

Quantitative Technical analysis:

This qualitative characteristic of our second school of thought distinguishes it from our subsequent methods. (Please keep in mind that we will return to this topic.)Technical Quantitative Analysis This type of stock prediction is the focus of my capstone project. As the name implies, this type of stock prediction depends on quantitative methods of prediction rather than graphre presentations using machine learning technologies.

IV. CONCLUSION

Our research study's purpose is to assist stockbrokers and investors in investing funds in the stock market. Prediction is essential in the stock market, which is a very intricate and challenging procedure owing to political issues, the financial economic crisis, and many other factors affecting the market. This survey study addresses a variety of machine learning algorithms, including NLP, Linear Regression, KNN, SVM, LSTM, Artificial Neural Networking, and others.

The value of a prediction model is that it helps investors, novices, and shareholders decide where to hold or invest their stocks in order to maximize profitability while minimizing risk. On the other side, if the dataset contains bogus news and incorrect information, the stock price .This is incorrect. Our long-term goal is to improve the accuracy of stock prediction by using the new method. We will create a model that is more accurate than the current one and will also overcome the current restrictions.

References

[1] A. Sharma, D. Bhuriya, and U. Singh, "Survey of Stock Market Prediction Using," International Conference on Electronics, Communication, and Aerospace Technology, 2017.

[2] D. Shah, H. Isah, and F. Zulkernine, "Stock Market Analysis: A Review and Taxonomy of Prediction Techniques," International Journal of Financial Studies, vol. 29, no. 1, pp. 2-22, 2019.

[3] S. Bahraini and A. Gheetha, "Sentiment Analysis for Effective Stock Market Prediction," International Journal of Intelligent Engineering and Systems, vol. 14, no. 3, pp. 142-153, 2017.

[4] N. N. Reddy, V. K. B P, and N. E., "Stock Price Prediction Using Sentimental Analysis Using Twitter Data," UTC from IEEE Explore, 2020.

[5] S. K. Khatri and A. Srivastava, "Using Sentimental Analysis in Stock Prediction,"