

TECHNICAL ANALYSIS OF STOCK MARKET

IBM MINI PROJECT

Submitted by

S.SIVA SAI KRISHNA(9920004697)

A.LOKESH(9920004651)

A.KOUSHIK TEJA(9920004712)

CH.PAVAN KUMAR(9920004718)

in partial fulfillment for the award of the degree

of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING



SCHOOL OF COMPUTING

COMPUTER SCIENCE AND ENGINEERING

KALASALINGAM ACADEMY OF RESEARCH

AND EDUCATION

KRISHNANKOIL 626 126

Academic Year 2021-2022

CONTENTS

ABSTRACT

LIST OF FIGURES

LIST OF ABBREVIATION

CHAPTER I INTRODUCTION... 11

1.1 Overview

CHAPTER II LITERATURE REVIEW.....12

2.1 Stock Market Forecasting Using Machine Learning Algorithms

2.2 Predicting Stock Market Indicators Through Twitter “I hope it is not as bad as I fear”

2.3 Analysis of stock market predictor variables using Linear Regression

2.4 Stock Market Forecasting Using Machine Learning Algorithms

2.5 Stock market predictor using prescriptive analytics

CHAPTER III OBJECTIVE 15

3.1 Scope

CHAPTER IV PROJECT PLAN..... 16

CHAPTER V DATA MODELS... 17

5.1 DATA SET DESCRIPTION

5.2 USE CASE ALGORITHM

CHAPTER VI SIMULATION OUTPUTS

CHAPTER VII CONCLUSION.....28

CHAPTER VIII REFERENCES29

CHAPTER IX STATUS OF THE PROJECT 32

LIST OF FIGURES

FIGURES	DETAILS
Figure 1	Figure 1: Flow Diagram Of Data Model
Figure 2	Figure 2: Example Of Use Case Algorithm
Figure 3	Figure 3: Line Graph Of Simulation Outputs
Figure 4	Figure 4: Bar Graph Of Simulation Outputs

ABSTRACT

In Stock Market Prediction, the aim is to predict the future value of the financial stocks of a company. The recent trend in stock market prediction technologies is the use of machine learning which makes predictions based on the values of current stock market indices by training on their previous values. Machine learning itself employs different models to make prediction easier and authentic. The paper focuses on the use of Regression based Machine learning to predict stock values. Factors considered are open, close, low, high and volume.



CHAPTER I

INTRODUCTION

1.1 Overview

Stock market consists of various buyers and sellers of stock. Stock market prediction means determining the future scope of market. A system is essential to be built which will work with maximum accuracy and it should consider all important factors that could influence the result. Various researches have already been done to predict stock market prices. The research is done over business and computer science domain. Sometime the stock market does well even when the economy is falling because there are various reasons for the profit or loss of a share. Predicting the performance of a stock market is tough as it takes into account various factors. The main aim is to identify the sentiments of investors. It is usually difficult as there must be rigorous analysis of national and international events. It is very important for an investor to know the current price and get a very close estimation of the future price.

CHAPTER II

LITERATURE SURVEY

2.1 Stock Market Forecasting Using Machine Learning Algorithms

The project mainly concentrated with support vector machine the advantages of using support vector machine it supports both linear and non-linear solutions using kernel trick. SVM handles outliers better than LR. And few disadvantages are the algorithm is not suitable for large data sets.

2.2 Predicting Stock Market Indicators Through Twitter “I hope it is not as bad as I fear”

The project use Decision Tree. Decision trees are able to handle both continuous and categorical variables. Decision trees are less appropriate for estimation tasks where the goal is to predict the value of a continuous attribute.

2.3 Analysis of stock market predictor variables using Linear Regression

Analysis of stock market predictor variables using Linear Regression uses Linear Regression Linear Regression is simple to implement and easier to interpret the output coefficients. On the other hand in linear regression technique outliers can have huge effects on the regression and boundaries are linear in this technique.

2.4 Stock Market Forecasting Using Machine Learning Algorithms

This survey uses another type of algorithm Decision making algorithm, requires Less data cleaning required but Decision tree often involves higher time to train the model.

2.5 Stock market predictor using prescriptive analytics

The project mainly concentrated with support vector machine the advantages of using support vector machine it supports both linear and non-linear solutions using kernel trick. SVM handles outliers better than LR. And few disadvantages are the algorithm is not suitable for large data sets.

CHAPTER III

OBJECTIVE

Nowadays, Investing in stock are very common to most of us. regardless of age or experience everyone was curious about investing. Many investors know how to handle the particular stock. They do fundamental analysis as well as technical analysis. Technical analysis includes analysing the stock with previous historic data. But only starring at that doesn't progress so make it easy to analysis a stock this also a method in technical analysis.

3.1 Scope:

Analysis of stocks using data mining will be useful for new investors to invest in stock market based on the various factors considered by the software.

Stock market includes daily activities like sensdex calculation, exchange of shares. The exchange provides an efficient and transparent market for trading in equity, debt instruments and derivatives.

Our software will be analyzing sensdex based on company's stock value. The stock values of company depend on many factors, some of them are:

1> Demand and Supply:

Demand and Supply of shares of a company is a major reason price change in stocks. When Demand Increase and Supply is less, price rises. and vice versa.

2> Corporate results: This will be regarding to the profits or progress of the company over a span of time say 3 months.

3> Popularity: Main Strength in hands of share buyer. Popularity of a company can effect on buyers. Like if any good news of a company, may result in rise of stock price. And a bad news may break dreams.

The stock value depends on other factors as well, but we are taking into consideration only these main factors.

CHAPTER IV

PROJECT PLAN

In the fields of stock market, predictions are very difficult. In older days even difficult to know about the history of the stock But time been that is very easy to know. Now we have plenty of data. To make use of all the data and to make profits using it we can use the data wisely. This also one of the way to make use of it. Many investors do technical analysis for the future stock prediction and for reference

It includes gathering data of the stock then preprocessing the data which includes removing the unwanted data clearing the null cells etc. Then partitioning the data to test and train. Creating the Linear Regression model, the model need to train for our data. After completing training our model should be ready for testing. We need to suit it as the best model.

CHAPTER V

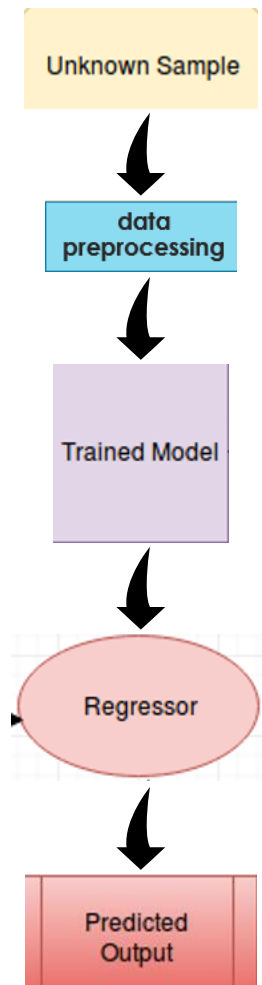
DATA MODEL

5.1 DATA SET DESCRIPTION

THE DATA SET USED FOR THE ANALYSIS OF THE STOCKS IS OF HINDUSTAN UNILEVER'S 2020,2021, WHICH CONSIST OF

- Open
- High
- Low
- Close
- Adj Close
- Volume.

But we used only Adj Close and Date from the dataset



The fig. 1:This figure explains the data flow of our project.

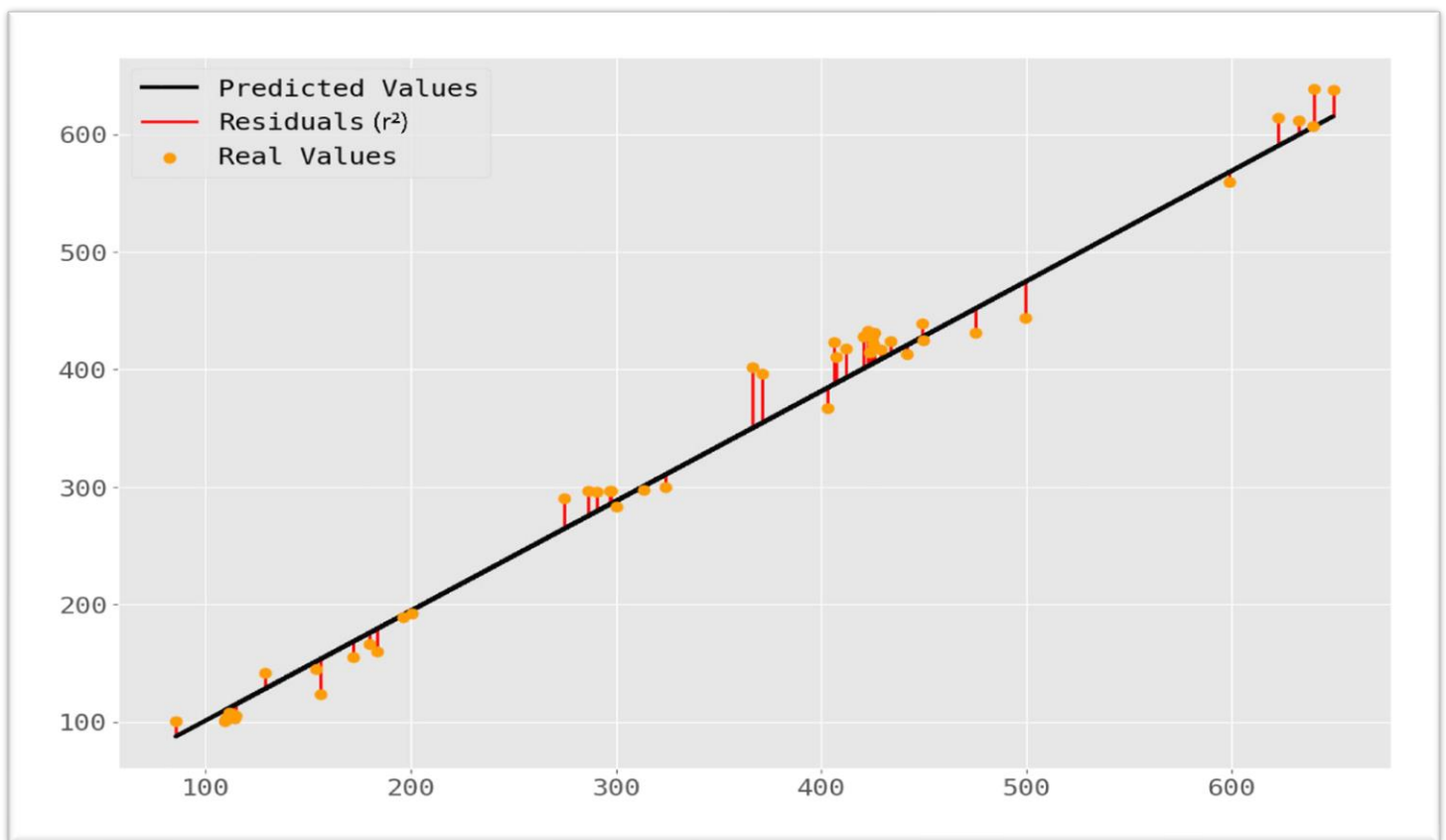
5.2 USE CASE ALGORITHM

- Linear regression models are used to show (or predict) the relationship between two variables or factors.
- The variable that the equation in your linear regression model is predicting is called the dependent variable. We call that one y . The variables that are being used to predict the dependent variable are called the independent variables. We call them X .

A linear regression line has an equation of the form

$$Y = a + bX$$

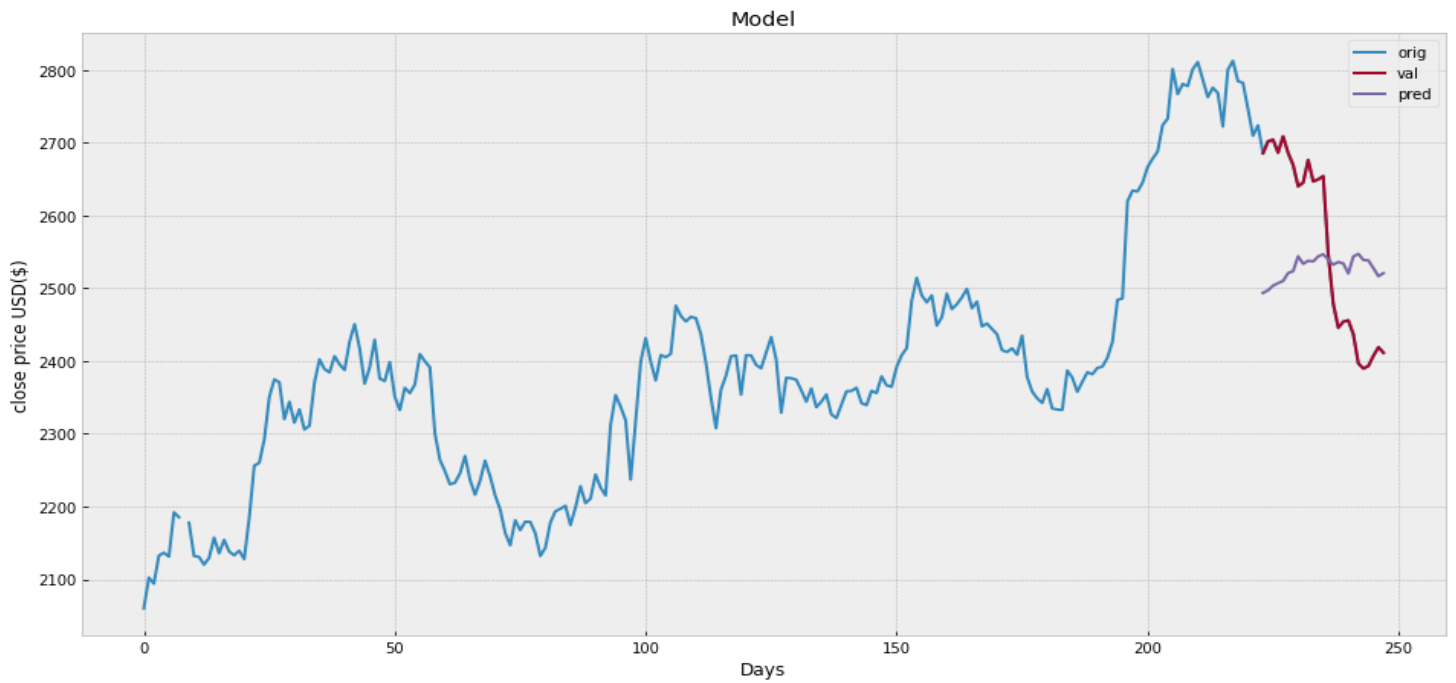
where X is the explanatory variable and Y is the dependent variable. The slope of the line is b , and a is the intercept (the value of y when $x = 0$).



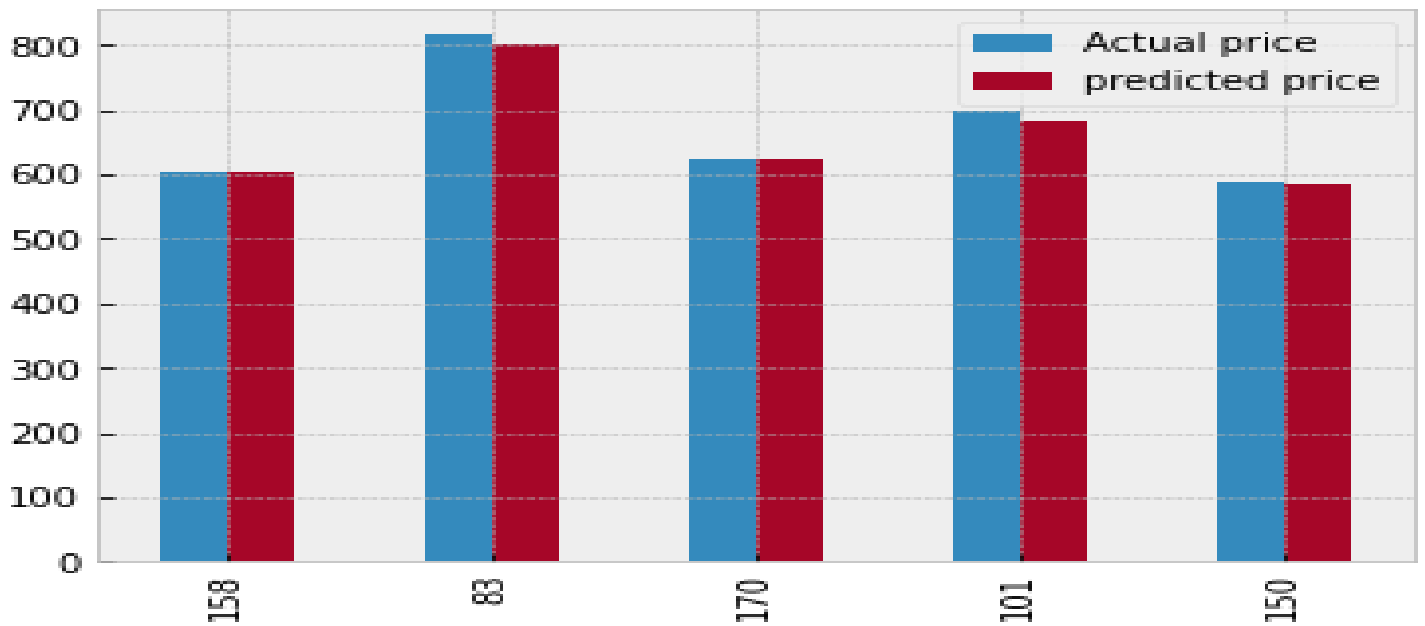
The fig. 2: Example Of Use Case Algorithm

CHAPTER VI

SIMULATION OUTPUTS



The fig. 3: Line Graph Of Simulation Outputs



The fig. 3: Bar Graph Of Simulation Output

CHAPTER VII

CONCLUSION

Only one technique have been utilized in this paper: Regression. Data set is from Yahoo finance. The technique have shown an improvement in the accuracy of predictions, thereby yielding positive results. Use of recently introduced machine learning techniques in the prediction of stocks have yielded promising results and thereby marked the use of them in profitable exchange schemes. It has led to the conclusion that it is possible to predict stock market with more accuracy and efficiency using machine learning techniques.

CHAPTER VIII

REFERENCES

- I. G. E. P. Box and G. M. Jenkins, Time series analysis: forecasting and control. San Fransisco, CA: Holden- Day, 1976. to Bull and Bear Markets, President, Global Financial Data, Inc.
- II. H.White, "Economic prediction using neural networks: the case of IBM daily stock returns," In Proceedings of the second IEEE annual conference on neural networks., II, pp. 451– 458,1988.
- III. Henry M. K. Mok, "Causality of interest rate, exchange rate and stock prices at stock market open and close in Hong Kong," Asia Pacific Journal of Management, Vol. 10 (2), pp. 123– 143,1993.
- IV. "Warren Buffett On The Stock Market What's in the future for investors-- another roaring bull market or more upset stomach? Amazingly, the answer may come down to three simple factors. Here, the world's most celebrated investor talks about what really makes the market tick--and whether that ticking should make you nervous. - December 10, 2001". archive.fortune.com. Fortune Magazine. 2001. Archived from the original on 8 March 2020.

- V. Jacaruso, Lucas Cassiel (2018-12-08). "A method of trend forecasting for financial and geopolitical data: inferring the effects of unknown exogenous variables". *Journal of Big Data*. 5 (1): 47. doi:10.1186/s40537-018-0160-5. ISSN 2196-1115.
- VI. Tobias Preis, Helen Susannah Moat and H. Eugene Stanley (2013). "Quantifying Trading Behavior in Financial Markets Using Google Trends". *Scientific Reports*. 3: 1684. doi:10.1038/srep01684. PMC 3635219. PMID 23619126.
- VII. Helen Susannah Moat, Chester Curme, Adam Avakian, Dror Y. Kenett, H. Eugene Stanley and Tobias Preis (2013). "Quantifying Wikipedia Usage Patterns Before Stock Market Moves". *Scientific Reports*. 3: 1801. doi:10.1038/srep01801. PMC 3647164.

CHAPTER IX

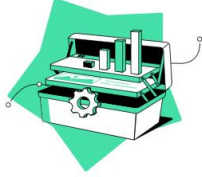

STATUS OF THE PROJECT

S.NO	PROJECT PHASES	STATUS
1.	Preprocessing	COMPLETED
2.	Implementation of Algorithm	COMPLETED
3.	Segmentation Process	COMPLETED
4.	Comparison with existing techniques	COMPLETED
5.	Classification Process	COMPLETED
6.	Output	COMPLETED

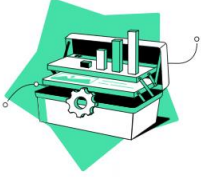

PLAAGIARISM REPORT

Seating Details - KARE x Assignment x IEEE IEEE Publication Recomm x IEEE My Research Projects x Free Online Plagiarism Ch x +

check-plagiarism.com



The leading **all-in-one**
SEO suite →



The leading **all-in-one**
SEO suite →


Feedback

94%
Unique Content

6%
Plagiarized content

Sentence wise results Matched URLs

unique	TECHNICAL ANALYSIS OF STOCK MARKET IBM MINI PROJECT Submitted by S.
unique	SIVA SAI KRISHNA(9920004697) A.
unique	LOKESH(9920004651) A.



EXPO
2020
DUBAI
UAE

**NOVEMBER
WEEKDAY OFFER**

ONLY AED 45

7 - 30 NOV

BURJ KHALIFA

PUBLICATION PROOF

The screenshot shows the IEEE Publication Recommender website. The browser tabs include "Seating Details - KARE", "Assignment", "IEEE Publication Recommender", and "si stock market prediction comes". The address bar shows "publication-recommender.ieee.org/pubsearch". The website header includes links to "IEEE.org", "IEEE Xplore Digital Library", "IEEE Author Center", "IEEE-SA", "IEEE Spectrum", and "More Sites". The main heading is "IEEE Publication Recommender™" with the tagline "Find the best match for your scholarly article". Below this, a section titled "Choose a search type and let Publication Recommender do the work!" offers options: "Both Periodicals and Conferences" (selected), "Periodicals only", and "Conferences only". A "Narrow by date: (Optional)" section is also present. A large white overlay box contains the text: "I acknowledge that use of this tool does not result in article submission for publication and does not guarantee publication in IEEE Xplore®." with an "I UNDERSTAND" button. To the right of the overlay, there is a text input field for "Extract keywords from your article" and a button "ADD YOUR FILE". Below the overlay, the "Results based on your keywords" section shows "Periodicals: (0 results)" and a "Sort By: Keyword Match (relevance)" dropdown. A table with columns "Title", "Open Access Availability", "Impact Factor", and "Submission to Publication Time in Xplore" is partially visible. At the bottom right, there are buttons for "DOWNLOAD RESULTS" and "EMAIL RESULTS", and a timestamp "Result current as of: 2021-Nov-21 07:49:22Z".

Seating Details - KARE | Assignment | IEEE Publication Recommender | si stock market prediction comes

publication-recommender.ieee.org/pubsearch

IEEE.org | IEEE Xplore Digital Library | IEEE Author Center | IEEE-SA | IEEE Spectrum | More Sites

IEEE Publication Recommender™

Find the best match for your scholarly article

Choose a search type and let Publication Recommender do the work!

- ☒ Both Periodicals and Conferences
- ☐ Periodicals only
- ☐ Conferences only

Narrow by date: (Optional)

I acknowledge that use of this tool does not result in article submission for publication and does not guarantee publication in IEEE Xplore®.

I UNDERSTAND

Extract keywords from your article

Enter your abstract or drag your article file here (PDF, DOC, DOCX, TEX).

+ ADD YOUR FILE

Update Recommendation

Results based on your keywords [Learn more](#)

DOWNLOAD RESULTS | EMAIL RESULTS

Result current as of: 2021-Nov-21 07:49:22Z

▼ Periodicals: (0 results) Sort By: **Keyword Match (relevance)**

Title	Open Access Availability	Impact Factor	Submission to Publication Time in Xplore
-------	--------------------------	---------------	--