

# STOCK MARKET ANALYSIS USING DATAMINING TOOLS

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**Abstract:** Stock market forecasting is a very important subject where researcher or many analyst shows interest. It basically involves assumption and tracking of previous available data which helps in predicting future of stock return. This is based on the knowledge which is extracted from previous prices of such stocks also this will help to decide the better timing for trading in stocks. Predicting prices of stocks is very challenging because it is itself a huge collection of data and the number of variables which are used. In this paper, we first provide a brief overview of stock markets and stock market functionality. We then focus on some of the research findings in stock assessment and forecasting. We discuss the technical, basic, short and long term methods used in stock analysis. Finally, we present some challenges and opportunities for research in this field.

**Keywords:** stock shares; stock markets; to update; prediction; arithmetic

## INTRODUCTION

The stock market plays an important role in the economic development of the country, with careful planning of money with high return investment. The proposition that the stock market is well regulated also an important economic services that are now widely accepted and recognized by various researcher. The stock market helps the economy and investors individually scarce resources and distribution of investments in those sectors. The stock market helps individuals investors by providing a sustainable market for investment. From an economic point of view, a well-established stock market considered necessary for economic growth and advances in national production. Progress of the world can be judged by knowing the stock market indicators such as liquidity, interest rates and cash flow. In moreover, by ensuring free and fair trading of shares again functionality of the pricing method, by ensuring an appropriate return on investment will guarantee effective investment opportunities in stock markets that act as driving forces and plans to invest in profitable stock again, that ensures proper budgeting. In recent years, there great distress among the participants, portfolio managers and investigators are about stock market behavior. Investors are more willing to get the maximum amount of return on their crops. Therefore, in fulfilling the expectations of investors, the portfolio management should be actively monitoring the stock market conditions and accordingly advise investors and build a sound portfolio. Our country is believed to be one of the fastest well-established rising and global markets in a stock market with a long history of organized trading. Over the last few years, technology has improved again online-based transactions have made the stock more modern exchanges and, depending on the number of companies listings and total allocation, capital of India the market is considered to be a large relative of the world-class economic development.

## PROBLEM DEFINATION

If the market is not working well, there will be some market inequality and inefficiency, then investors can find something extraordinary returns through well-designed internal strategies. A large number of new players have entered marketing and trying to gain market share in this rapid development of the market by Studying this week's Result Day, it will helps investors to get information of the market. Investors may have the opportunity to use calendar records to detect abnormalities, but by using data mining tool an investor get previous record easily.

## LITERATURE REVIEW

In the last two decades many important aspects or factors have taken place in the word of financial markets. The process of communication and trading facilities has more chances of selection for investors. The most important financial subject that has attracted researchers attention for several years is the forecasting stock return. It comes with an assumption that fundamental knowledge publicly available in the past that has some predictive relationships to the future stock returns. In order to find such relationships from the data that are available we used data mining techniques. With the help of data mining techniques we can extract the knowledge from the data that are available. So this is the reason, several researchers have mainly focused on technical analysis. Extensive attention has been given to the field of artificial intelligence and data mining techniques.

There are some models that has been proposed and implemented using the above mentioned techniques that we are discussed, the authors made an study on developing a stock buying/selling alert system by using back propagation neural networks (BPNN), their NN was codenamed NN5. The system was developed and tested with previous price data from Hong Kong and Shanghai Banking Corporation Holdings over the period from January 2019 to December 2020. The half results showed that the implemented system was able to predict short-term price movement with accuracy about 74%.

The researchers used decision tree technique to develop the work of Lin where Lin tried to build the filter rule so that he can buy when the stock price rises k% above its previous local low and sell when it falls k% from its previous local high. According to Lin's idea, for clustering trading points involved only the previous information and the future information was not considered in the system at all. The research try to build the filter rule and Lin's study by combining both the past and the future result in clustering the trading points. Test results showed that the system outperformed both Lin's method and the filter rule in the two stock markets.

The model than applied the concept of topology, with the help of which we designed a new decision tree system, which was named as two layer bias decision tree, for stock price prediction. The system developed by the authors differs from other two system. First, we have to reduce the error in classification and then decision model was modify into a new bias decision model. Second, we have to develop the two-layer bias decision tree. So that we can improve purchasing accuracy with the help of this model.

**PROPOSED SYSTEM**

The tool we have used for analysing and prediction of high shares and low share of a company is Weka Tool we have use this tool because it makes work easy to be done less no of steps are needed to complete complicated task.

To analyse and predict we performed various algorithm over the open source data set of city bank now to understand the algorithms we have to first understand the basic terminology of classify

Classification algorithm -This term comes under supervised learning algorithm where the predictions are done from the given model of data set.

For example

1. choosing between true and false
2. choosing between cat and dog etc These are the following algorithms
- J48 algorithm- This algorithm comes under classification algorithm it is used to examine the given set of data in categorically and in continuous fashion it is used to find each and every instances and with the help of Weka Tool we can use some extra function as you can see in fig 1

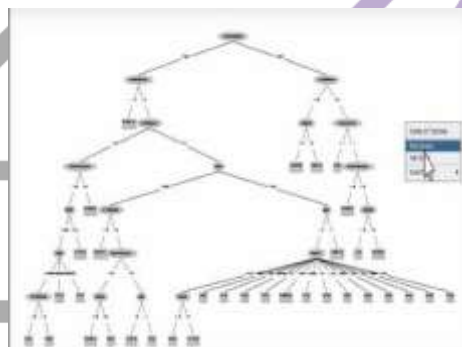


Figure 1

Here in this figure we can see that with the help of Weka Tool we can see each instances in given data set in one place and how they are related to each other.

This algorithm also gives important data for prediction purpose like precision, fp rate, region of convergence etc as we can see in fig 2. These data are used to find prediction and no of instances

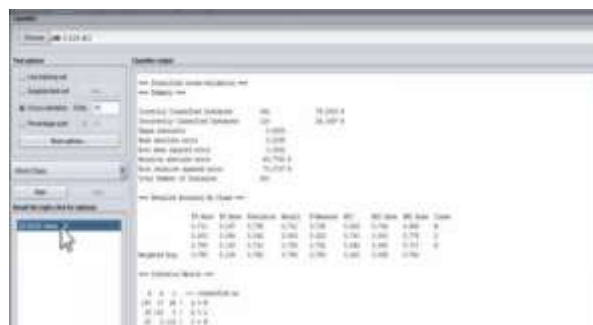


Figure 2

- K-means clustering algorithm-This term comes under unsupervised learning .In this algorithm we don't and much information about given dataset so here the analysis while training is done through clustering of similar data sets which means

grouping the data instances which are similar to each other those data set which are not similar are kept in other group and it also categorize them as per the common properties .This algorithm gives us hidden information of data set instances while analysing there common properties and changing certain setting we can create clusters as our need also as given in fig 3



Figure 3

## CONCLUSION

The research of the study presents a proposal to use classifier decision tree on the previous prices of the stocks to create better decision rules. So that they can give a better buy or sell recommendations in the stock market. So this type of proposed model can be a better tool for the investors to take the right decision regarding their stocks. Because based on the analysis of the previous prices of stocks we can extract any predictive information from that past data which we got. The research had said that the results for the proposed model were not good because of many factors that are political events, condition of general economic and expectations of the investor's that influence stock market.

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