In this paper, we apply data mining technology in Indian stock market in order to research the trend of price. Its aim is to predict the future trend in stock market and the fluctuation of price. Stock is a share in the ownership of a company. As investors acquire stock, it means the investor has ownership. Basically in stock market the investors invest money for gaining the Profit. The purpose of a stock market is to facilitate the exchange of securities between buyers and sellers. Stock prices change everyday as a result of market forces. People tend to invest in stock of company due to its high rate of return. Stock prices are continuously changing and most investors fail to understand the market trends. The stock market predictions means basically guess the future value of shares of an organization. The environmental situations also affected on shares value. The ups and downs value of a shares depends upon many factors. In order to get the profit, many investors need to know how to analyze the important data from the stock market. The prediction helps them to guess what will be probable value of shares.

Keywords: Genetic algorithm, Prediction, Stock Market.

I. INTRODUCTION

1.1 Overview

Recently forecasting stock market return is gaining more attention because of their share value prediction. Basically, the stock market prediction is one of the tedious job since value of share affected by many factors in stock market. When we predict value of share of particular company there are many factors that should be considerable that may be environmental factor, Political factor or Market status. By considering these factors the value of shares is continuously change. The Stock Market Prediction helps to investors to predict the future value of shares. The stock market is characterized by high risk, high yield. Investors are concerned about the analysis, about the stock market and trying to forecast the trend of the stock market. The prediction helps people to guess what will be probable value of shares in future.

1.2 Objective

1. For general people to predict their future share value:

This system will be beneficial for general people to predict future value of share and also to take decision in Investment Decision System that either to purchase share or not.

2. Simulating trading strategies:

The system should offer ways to specify and simulate fundamental and technical trading strategies. Additionally, combining these two approaches must be possible.

3. Evaluate and visualize trading strategies:

The system should evaluate and visualize the financial performance of the simulated strategies. This allows a comparison to be made between technical, fundamental and the combined approaches.

II. LITERATURE SURVEY

ChingTe Wang determine data analysis have been growing importance on the stock market in the recent years. In order to get the profit of the investing, many investors need to know how to study the vital data from the share market. Ina huge measure of general literature on stock, predict a specific guidance appear on the future prediction. Therefore, how to predict the stocks from the retrieval data, it becomes a significant problem on market predict. Genetic Algorithm and Support Vector Machine, which can provide a framework for data analysis and forecast the stock market. Also, we will study the efficiency of our method and show the better performance for the efficiency and accuracy[1].

Artificial Neural Network is a successful soft-computing technique to predict the trends of the stock market index. Input parameters related to the BSE Sensex are fed as input dataset to the Multi Layer Perceptron neural network. The best neural network model is further subjected to synaptic weight optimization using Genetic Algorithm. Neural network models are useful for stock prediction very little work is done on BSE sensex data. Artificial Neural Network has evolved out to be a better technique in capturing the structural relationship between a stock's performance. Its determinant factors more accurately than many other statistical techniques[2].

The stock market is one of the most important sources for companies to raise money. This allows businesses to be publicly traded, or raise additional financial capital for expansion by selling shares of ownership of the company in a public market. Stock market forecasters focus on developing a successful approach for forecasting/predict index values or stock prices. Determining more effective ways of stock market index prediction is important for stock market investor in order to make more informed and accurate investment decisions. History has shown that the price of shares and other assets is an important part of the dynamics of economic activity, and can be an indicator of social mood[3].
Recently forecasting stock market return is gaining more attention, maybe because of the fact that if the direction of the market is successfully predicted the investors can be better guided. The effectiveness of investing and trade in the stock market to a large extent depends on the predictability. If any system be developed which can consistently predict the trend of the stock market, would make the owner of the system wealthy. Moreover the predicted trends of the market will help the regulators of the market in making corrective procedures. Another enthusiasm for research in this field is that it possesses many experimental and theoretical challenges. The most important of these is the Efficient Market Hypothesis (EMH)[4].

III. GENETIC ALGORITHM.

Genetic Algorithm (GA) is considered as a branch of artificial intelligence by imitate of mechanism of natural Selection for solving statistically problems. The solutions are randomly generated and assessed by the goals of the problems. The better solution can therefore be reproduced and mutated. Genetic Algorithm is the mimicry of the natural selection process of biological evolution. The algorithm repeatedly modifies a population of individuals. The input parameters are considered as population, from which the Genetic Algorithm randomly selects data, which acts as parents. The parents are modified to produce children for the next generation. Over successive generation, the population evolves towards optimized solutions. Genetic Algorithm can be used to solve both constrained and unconstrained problems of optimization. Below figure 1 shows the operation of Genetic Algorithm. GA Operators and Parameters are as follows:

1 Selection

The process that determines which solutions are to be preserved and allowed to reproduce and which ones deserve to die out.

The primary objective of the selection operator is to highlight the good solutions and remove the bad solutions in a population while keeping the population size constant. It selects the best, discards the rest. Functions of Selection operator are as follows:

- Identify the good solutions in a population.
- Make multiple copies of the good solutions.
- Eliminate bad solutions from the population so that multiple copies of good solutions can be positioned in the population.

There are various techniques to implement selection in Genetic Algorithms:

1. Tournament selection
2. Roulette wheel selection
3. Proportionate selection.
4. Rank selection

1. Tournament selection:

In tournament selection several tournaments are played among a few individuals. The individuals are chosen at random from the population. The winner of each tournament is chosen for the next generation. Selection pressure can be adjusted by changing the tournament size. Weak individuals have a smaller chance to be selected if tournament size is large.

2. Crossover:

The crossover operator is used to create new solutions from the existing solutions available in the mating pool after applying selection operator. This operator exchange the gene information among the solutions in the mating pool. The most popular crossover selects any two solutions strings randomly from the mating pool and some portion of the strings is exchanged between them.

3. Mutation

Mutation is the occasional introduction of new features in to the solution strings of the population pool to maintain diversity in the population. Though crossover has the main responsibility to exchange the conflict among the solutions in the mating pool, the mutation operator is also used for this purpose.
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