STOCK MARKET PREDICTIONS - INTEGRATING USER PERCEPTION FOR EXTRACTING BETTER PREDICTION - A FRAME WORK

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Abstract:

Most of the prediction methods apply different statistical and other methods using external and internal factors. These predictions are not accurate, and are mostly applicable to a specific environment. In all these methods user experience is not being considered into account for prediction. In this paper we take into consideration of the user experience he/she gains in the market to have a higher reliability and success. The proposed model is an integration of the conventional wisdom of the user along with the technical analysis of the data to gain the insight of buy and sell signals from the market as it emerges. The aim of the proposed work is to utilize the knowledge gained by the user along with the existing methods for enhancing the reliability of the knowledge, as he/she buys and sells the stocks to maximize his profit.

Keywords: stock market, stock, Neural Networks (NN), Data warehouse.

1. Introduction:

The growth of stock markets has been identified as an economic strength of a country. Stock market prediction is an important issue in the field of finance, engineering and mathematics due to its potential financial gains. This lead to the attraction of academicians and industry alike to identify reliable and profitable methods of predicting the market. The vast amount of data it generate has made it ideal for data mining techniques to be adopted for extracting knowledge. The knowledge discovery is an interdisciplinary field using both data representation and processing techniques. [1] Discovery of knowledge includes the application of several pre-processing methods aimed at facilitating the application of Data mining algorithms and post-processing methods aimed at refining and improving the discovered knowledge. In the recent past lot of research was taken up for different problems using Genetic Algorithms, Genetic Programming and Neural Networks for discovering interesting knowledge from the data.

In stock market when brokers want to sell or buy stock, they mostly depend on technical trading rules. Robert Edward and John Magee have [2], defined technical trading rules as “the science of recording the actual history of trading (price changes, volume of transaction, etc.) in a certain stock or in ‘the averages’ and then deducing from that pictured history the probable future trend”. Different artificial intelligence methods were used to optimize the prediction by successful selection of trading rules.

Genetic algorithms are search methods based on mechanics of natural selection and genetics. Here the process is to find the best parameter combination among the range of dynamically changing parameters in the large domain. Most of the methods [3] [4] [5] use the mechanism of setting a sub domain of the parameters using Genetic Algorithm. This task is basically regarded as generalization of classification task. In the second stage find the near optimal value in the selected sub domain with Genetic Algorithm in a reasonable time. The idea is to model different rules which can predict different goal attributes and then identify the combination of attributes to optimize the goal of stock market prediction.
Predicting Intraday Prices in Stock Market Transactions using Similarity Profiled Temporal Associations

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Abstract: The primary intension of any investor in the stock market is to catch the market trends at an early stage and accordingly transact (Buy or Sell) at right time. Though stock market data is convertible into some form of multiple time series, it is difficult to process, analyze and mine manually. Researchers have proposed several methods to predict the future price of the stocks. In this paper, we proposed a method to predict the intraday price of a stock using the historic data. Given the time stamped transactions, the stock data is mined for pattern records using similarity profiled temporal association mining with reference to a cutoff value and for forming a pattern database. Using the support value for different price gain and the opening price of the stock for the day, we extract all the significant pattern records from the pattern database. Using the current trend of the stock, we project the future prices from time to time for the day. Wipro stock data from 2005 to 2009 are used for experimental evaluation of our approach. Expected price for various days are agreed to an extent of 98% with actual transaction prices.

Key words: Stock Market, Intraday price prediction, Similarity profile Association Mining, Support value table, Pattern table.

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1. Introduction

Data mining comprises of techniques for discovering patterns and hence knowledge discovery is useful for decision making. It is becoming essential for the people in both business and research fields to use the novel methods and tools related to Data Mining for better returns. For the domains having high commercial value, researchers aimed to provide scalable algorithms which can use huge historical data to produce accurate results in less time.