

Predict Stock Market changes using time series method

Abstraction:

Stock market prediction is the act of trying to determine the future value of a company stock or other financial instrument traded on an exchange. The successful prediction of a stock's future price could yield significant profit. The efficient-market hypothesis suggests that stock prices reflect all currently available information and any price changes that are not based on newly revealed information thus are inherently unpredictable. Others disagree and those with this viewpoint possess myriad methods and technologies which purportedly allow them to gain future price information.

There are several methods to predict stock market such as Fundamental analyses, Technical analyses, and Data mining. In this project I will be focusing on Technical analysis using time series

Objective:

In this project, I'm going to predict stock market based on the period of the times and price changes. This prediction model can be used for any stock market that has price history at least for last 3 years in addition I should be able to enhance our trading system and advise analytic team in more efficient way

History of price market in CSV format would be the feed file into my product and I'll conduct different predictive model.

My goal is that show investment advisor when, and what stock market is good to buy and opposite for sell.

Data format:

The price history file will be downloaded from public repository (Yahoo Finance or S&P 500), and called data_stock it's on comma delimited format, contains symbol, date, Open price , High price , Low price , Close price , volume , and Adjusted. File size is around 80M, and contains 100,000+ rows.

Tools:

Perl: Using Perl script to read from file, cleaning, find the missing values and value them

R: Using R to analyses my observations, create predict model, and graphic

Tableau: To do visualization

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Question:

- How much would be volume and price for given symbol (stock market) tomorrow, future based on data history
- Predict stock market behavior, find out what stock has better price in future
- What is the Daily Rate of Return for given symbol

Best Regards,

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