

# Stock market analysis

**Idea:** The idea of this project is to create a tool that can be used by stock market analyst and investor to check the previous market trend and to help them to analyze the data for future market predictions. The project uses two technical indicator: RSI(Relative strength index) and MACD(Moving average convergence divergence). These market indicators helps people to predict the future change in market trend. The program can also be used by novice investors to know about the Technical indicators and to check if they are able to use them properly before starting to invest money into the stocks.

**Technology used:** The project is made in python 2. It uses Python Library Matplotlib for data visualization(Graph plotting). It also uses a module called fix\_yahoo\_finance which collects data from Yahoo Finance site and downloads it for further use in program.

**Implementation Details:** The tool basically does 4 things:

1. Input from user: The program takes input from the user. The input consists of ticker symbol(Ticker symbol is the symbol used to uniquely identify a stock in publicly traded market), start-date and end date. The dates determine the time period for which user wants to analyze the market.
2. Collecting data from fix\_yahoo\_finance.
3. Calculation of the factors to be used to visualize data: the factors are: simple moving averages, weighted moving averages,RSI index , MACD line, Signal line, Exponential moving averages of period 26 and 12 days , Growth of stock.
4. Plotting the appropriate graphs which includes Candlestick\_ohlc graph, Moving averages, RSI index , MACD graph(MACD line,Signal line and histogram), Volume graph, Growth of stock graph.

## Photos and video:

<https://photos.app.goo.gl/Sd7zWV7eMyo7NsPT9>

<https://youtu.be/BO9pmdol4co>

**Future scope of project:** The project can be extended to use live data from the Yahoo\_finance site and plot all the graphs at the same moment. The feature of virtual currency can be added to help the novice investors to trade without any risk of losing the money and on the other hand to get the experience of trading in stock market. The tool can be used by investors to check their own algorithm of making profit and to test it on the live data.

**Overall Experience:** The project helped me learn about lots of new things both technical and financial. The technical knowledge was mainly about using Matplotlib. The financial knowledge includes- Calculation of various technical indicators(RSI, MACD, Simple and weighted moving averages), and how to use these technical indicators while trading in stock market. Got experience of using stack overflow and Matplotlib Documentation whenever needed to add new features. Overall it was a wonderful experience working on this project.