Shares Prediction of a Company Using Fundamental Analysis

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ABSTRACT

One of the most essential tasks in the world of finance is inventory trading. The act of making a forecast about the prospective price Stock market forecasting refers to the analysis of a shares or other financial instrument marketed on a stock exchange.Most stockbrokers utilize technical analysis and integral analysis and time sequence analysis as a tool when making inventory projections. OHLC ,volume of trading, and Price to Earnings Ratio are among the input parameters, P/B ratio, ROCE ratio, ROE ratio, market cap, dividend yield for more accuracy.Stock price forecasting has long been one of the primary topics of inquiry. According to formal arguments, effective modelling and the choice of relevant factors may result in systems that may accurately anticipate share prices and movement in stocks patterns, notwithstanding claims made by supporters of the efficient market model that it is hard to predict stock prices.In addition to the web-scraping approach used to collect the stock's most recent market data. In the long run, future stock rates are forecaster by the iterative training model using the predicted value as input.

Keywords--*price to earning ratio,P/B ratio,market cap,dividend yield.*

1. INTRODUCTION

The technique of analysing historical and current data in order to predict future stock market patterns is known as share market prediction. It involves making forecasts about the trajectory of stock prices and broad market movements using a variety of methodologies, including technical and fundamental evaluation, and statistical modelling. Financial analysis must include share market forecasting because it aids traders and investors in making wise stock purchase and sale decisions. While inaccurate projections might result in losses, accurate predictions can generate large gains. Understanding finance, economics, and market behaviour is necessary for the complicated and dynamic process of share market prediction.For forecasting the stock's price in the coming days. The sort of study, known as qualitative analysis, is based on outside variables such as a company's profile, the state of the market, political and economic issues, textual data as a result of stories in financial news, social media, and even blogs written by economic analysts. Modern stock price forecasting methods involve sophisticated intelligent methodologies that depend on whether technical or fundamental analysis. In particular, the data size is enormous and non-linear for stock market analysis. An effective model that can find hidden trends and intricate relationships in this massive data collection is required to handle this diversity of data. Compared to the industry standard, Machine learning techniques have been demonstrated to boost productivity by 60–86%.Traditional stock price prediction methods as the linear regression approach (LR), random walk concept (RWT), changing averages, auto regressive moving average (ARMA), and ARIMA have been used extensively in past research in this area. Machine learning can enhance stock market prediction, according to recent research.Methods like Random Forest (RF) and Support Vector Machine (SVM). Artificial neural networks (ANN), convolution neural networks (CNN), recurrent neural networks (RNN), & DNN like LSTM are some of the neural network-based techniques that have demonstrated promising outcomes.

1.1 Fundamental Analysis

Fundamental analysis seeks to ascertain if a company's stock price currently accurately reflects its predicted future value. In order to assess the value of a share, fundamental analysis considers a number of factors, such as the company's present financial status and the state of the economy as a whole.Connecting with the management of analyzing a company's performance and its products accepted in the market are additional potential elements of fundamental analysis. After conducting a fundamental analysis, the analyst may come to the conclusion that the market has overvalued the stock, making it a compelling opportunity. The financial analyst may also choose to "keep" or "promote" the stock if the value of the company is completely reflected in the price.

1.2 Technical analysis

Technical analysts analyse current trading patterns and trends to try to forecast what will happen to the price of a business's stock next. Technical analysts pay a lesser amount of attention to the underlying fundamentals of stock value. Share charts are the main tool used by technical analysts to evaluate the stock price of an organization. Technicians can use support and resistance levels to forecast the future movement of shares . A price level known as a level of support is one that the stock might discover below support but may not fall. In contrast, an amount above which the stock may experience pressures above the point An object can advance past a certain point before experiencing resistance.

2. LITERATURE SURVEY

1. Convolutional neural network studies on stock price prediction, IEEE 2019, Sayavong Lounnapha et al. This study aims to develop a stock price prediction model that centres on convolutional neural networks, which have a remarkable capacity for self-learning. The data set is used to teach and test relationships between the Thai stock market and convolutional neural networks. The outcome demonstrates that the model based on Convolutional Neural Network can successfully recognise and anticipate the shifts in stock market price, providing considerable allusion for stock price projection. The prediction's accuracy is proven to be higher than average, and it might be marketed in the banking industry.

2. By Xiaolei Ma, Ruixue Liu, and Hongbo Liu, "Estimating the Price of Stocks Through fundamental Analysis of Twitter Data". This study suggests a technique for forecasting stock values based on sentiment analysis from Twitter. The algorithm known as the Support Vector Machine (SVM) is used by the authors to categorize tweets as having a +ve or -ve views, which is then used to forecast the movement of the stock market.

3. PROPOSED SYSTEM

Prediction is the most used technique in the subject of machine learning.Here, we tried to predict the status of Shares using fundamental analysis. In this we have created an user interface which contains the searching option of company names to know that company shares.Upon submitting the search the system retrieves the data from the screen er.in website and gives the suggestion to the user whether he/she should buy the shares or not.

3.1 Advantages of proposed system

- It is highly efficient.
- It helps in monitoring the share price in better way.
- It helps in reducing the cost of storage and maintenance.
- The time complexity of the system is low.
- Its architecture is easy to understand.
- Large amount of data processes easily.

4.SYSTEM ARCHITECUTRE
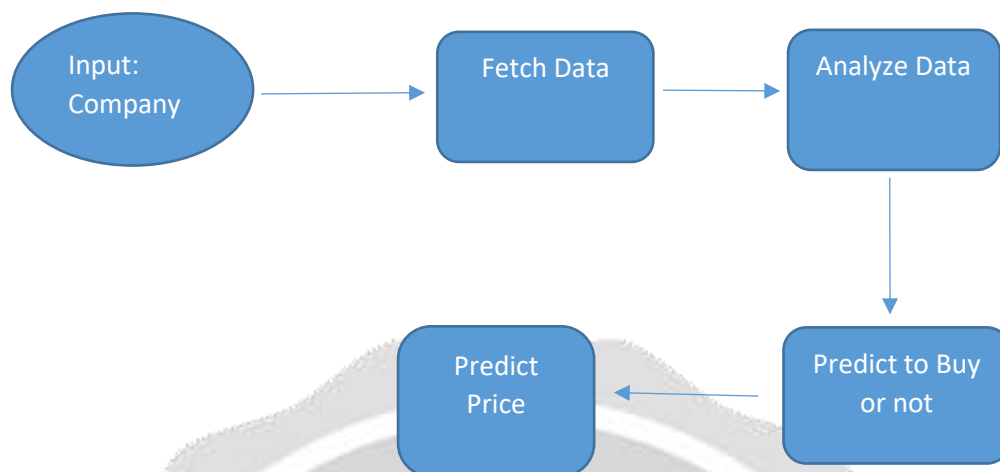
5. METHODOLOGY

5.1 Web Scraping:

Web scraping is the process of extracting data from websites using automated software tools called web scrapers or web crawlers. These tools access websites and collect information from them, usually in the form of HTML, CSS, or JavaScript code. The extracted data can be used for a variety of purposes, such as data mining, market research, competitor analysis, and price monitoring.

Web scraping can be done using various programming languages such as Python, JavaScript, and Ruby. Some popular web scraping libraries in Python include Beautiful Soup, Scrapy, and Selenium. These libraries provide a range of functions and tools to scrape websites efficiently and effectively.However, it's important to note that web scraping may violate website terms of service and copyright laws. Therefore, it's essential to obtain permission from website owners before scraping their data, and to ensure that the data is used ethically and legally.

Web scraping involves the use of tools and technologies such as web crawlers, parser, and regular expressions. It requires knowledge of programming languages such as Python, Java, or Ruby, as well as understanding of HTML, CSS, and JavaScript.

5.2 Analyzing Data

5.2.1 Fundamental Analysis

  Fundamental analysis is a method of evaluating the intrinsic value of a stock by analyzing its financial and economic fundamentals. This involves looking at a company's financial statements, management, industry trends, and overall economic environment to determine whether the stock is undervalued or overvalued.The goal of fundamental analysis is to identify stocks that are trading below their intrinsic value, indicating a potential buying opportunity, or stocks that are overvalued, indicating a potential selling opportunity.Some common financial metrics used in fundamental analysis include earnings per share (EPS), price-to-earnings (P/E) ratio, price-to-book (P/B) ratio, dividend yield, and return on equity (ROE). These metrics help investors to understand a company's financial health, profitability, and growth potential.

  Some of the key factors that fundamental analysis considers include:

1.   P/E ratio:

The stock price of a corporation is compared with EPS using the price-to-earning's ratio (P/E). It is a well-liked indicator that investors use to assess the relative worth of stock on a business. The p/e is calculated by the dividing company's price for shares by EPS. The company's price- to-ear ratio,would be 10 ($50/$5) if the stock is now trading at $50 & EPS are $5.

2.   ROCE:

Return on Capital Employed, or ROCE, is a financial ratio that assesses how successfully a firm generates profit through the money it has invested in its operations. ROCE is a key indicator of a company's financial performance and is commonly used by investors to evaluate a company's profitability and efficiency.

The formula for calculating ROCE is:

ROCE = EBIT / (Total Assets - Current Liabilities) EBIT stands for Earnings Before Interest and Taxes.

3.   ROE:

ROE, or Return on stock, a financial statistic, gauges a company's success in terms of the amount of stock held by shareholders. ROE is a key metric for investors to evaluate a company's financial performance and overall effectiveness in generating profits from the equity invested by shareholders.

The formula for calculating ROE is:

ROE = Net Income / Shareholder Equity

where Net Income is the company's net profit after taxes, and Shareholder Equity is the total equity invested by shareholders.

4. P/B ratio:

The P/B ratio, or a Price-to-Book ratio, is a financial metric used to evaluate a company's valuation in relation based on its book value. The total worth of a assets of the corporation less the total worth of its liabilities as shown on the balance sheet is the company's book value.

5. Dividend Yield:

Dividend yield is a financial ratio that represents the annual dividend payment of a company expressed as a percentage of its current stock price. It measures the amount of cash dividends paid out by a company to its shareholders relative to its current stock price.

Dividend yield is an important metric for investors who are looking to generate regular income from their investments. Generally, companies that have a higher dividend yield are more attractive to income-seeking investors, while companies that have a lower or no dividend yield may be more attractive to growth investors who are looking for capital appreciation.

6. Market cap:

Market capitalization, often shortened to "market cap," is a gauge of a company's overall worth in the stock market. It is calculated by multiplying the total number of outstanding shares of a company's stock by the current market price per share. Market capitalization gives investors an idea of a company's size and its relative importance in the stock market.For example, if a company has 10 million shares outstanding and the current market price per share is $50, its market capitalization would be $500 million (10 million x $50). This means that the total value of all outstanding shares of the company is $500 million.

6.Results

Fig-1: Search for company name

Fig-2: Analyzing the shares of company

7.Conclusion

Thus, as we can see above in our proposed method, we analyze the data that is retrieved from the website. We use this data to analyze the shares of a company and predict the future share value.

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