

TOPIC :STOCK PRICE PREDICTION SYSTEM USING MACHINE LEARNING



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INTRODUCTION



Due to high profit if stock market ,it is one of the most popular investments. people investigated for methods and tools that would increase their gains while minimizing the risk, as the level of trading and investing grew .two stock exchanges namely the national stock exchange(NSE) and the Bombay stock exchange (BSE) which are the most of the trading in Indian stock market takes place .

- A moving average (MA) is a stock indicator commonly used in technical analysis.
- The moving average helps to level the price data over a specified period by creating a constantly updated average price.
- A simple moving average (SMA) is a calculation that takes the arithmetic mean of a given set of prices over a specific number of days in the past.
- An exponential moving average (EMA) is a weighted average that gives greater importance to the price of a stock in more recent days, making it an indicator that is more responsive to new information.

next is **LINEAR REGRESSION**

Regression is also useful when you want to forecast a response using a new set of predictors. For example, you could try to predict electricity consumption of a household for the next hour given the outdoor temperature, time of day, and number of residents in that household.

Regression is used in many different fields, including economics, computer science, and the social sciences. Its importance rises every day with the availability of large amounts of data and increased awareness of the practical value of data.



PROBLEM STATEMENT

The stock market appears in the news every day. You hear about it every time it reaches a new high or a new low. The rate of investment and business opportunities in the Stock market can increase if an efficient algorithm could be devised to predict the short term price of an individual stock.

Previous methods of stock predictions involve the use of Artificial Neural Networks and Convolution Neural Networks which has an error loss at an average of 20%.



METHODOLOGY

A primary dataset will be used throughout the project. The dataset will contain the daily percentage change in stock price.

Luckily, daily stock price data is easy to come by. Google and Yahoo both operate websites which offer a facility to download CSV files containing a full 14 daily price history. These are useful for looking at individual companies but cumbersome when accessing large amounts of data across many stocks.



For this reason, Quandl was used to gather the data instead of using Google and Yahoo directly. Quandl is a free to use website that hosts and maintains vast amounts of numerical datasets with a focus specifically on economic datasets, including stock market data which is backed by Google and Yahoo.



Quandl also provides a small python library that is useful for accessing the database programmatically. The library provides a simple method for calculating the daily percentage change daily in prices.

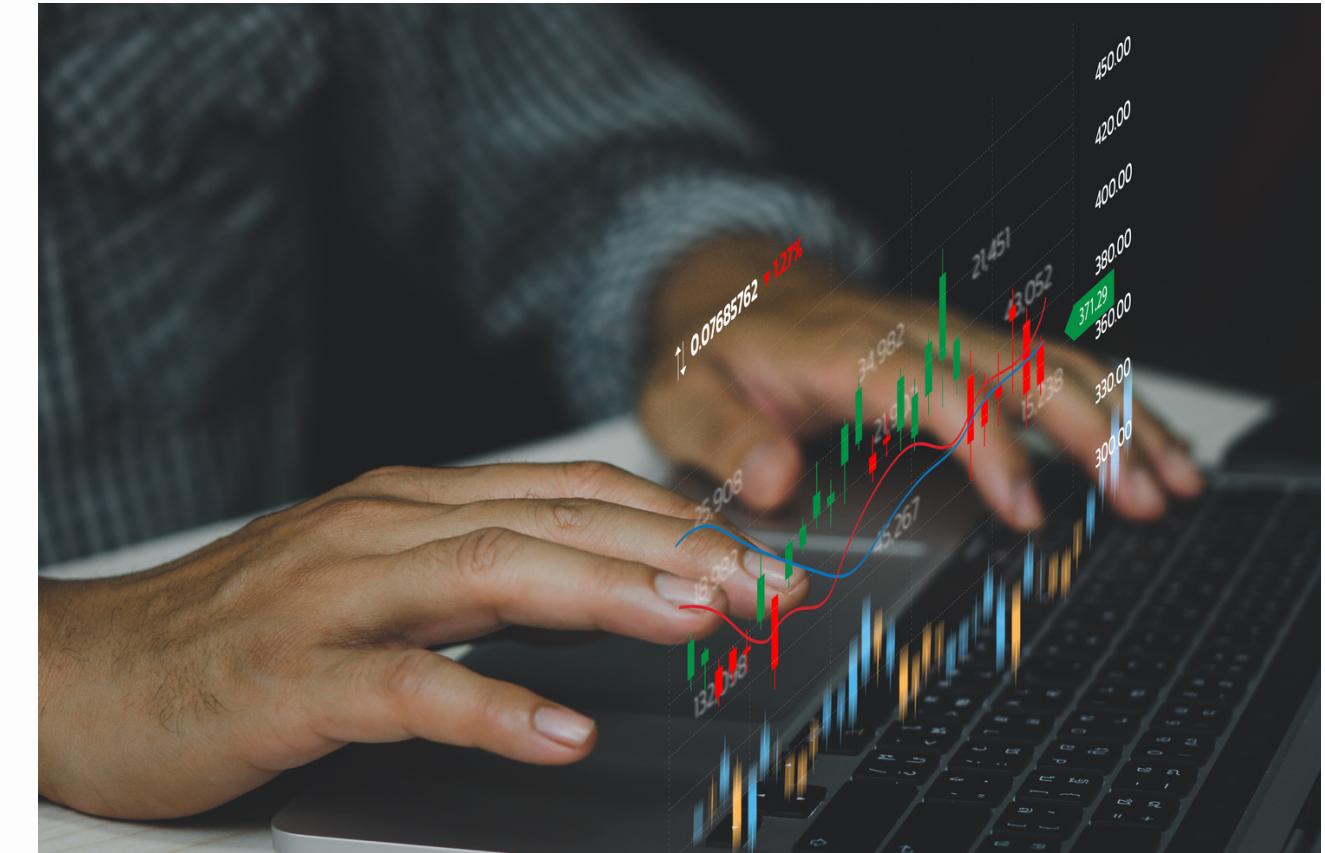
RESULT



conclusion

we can conclude that simple linear regression means that we can predict a dependent variable from an independent one, so whenever we need to know from the beginning each time we add information. and aslo that Moving average is a useful indicator. The simplicity of this indicator makes it popular among most of the traders. It's the most important tool to identify broader trends in the market.

A moving average is a statistic that captures the average change in a data series over time. In finance, moving averages are often used by technical analysts to keep track of price trends for specific securities. An upward trend in a moving average might signify an upswing in the price or momentum of a security, while a downward trend would be seen as a sign of decline.



Future work

The moving average is a statistical method used for forecasting long-term trends. The technique represents taking an average of a set of numbers in a given range while moving the range and Linear regression analysis is used to predict the value of a variable based on the value of another variable. The variable you want to predict is called the dependent variable. The variable you are using to predict the other variable's value is called the independent variable which will future help the future traders in ease of trading and getting the accurate data



THANK YOU