

Data Sciences and Artificial Intelligence In Finance

Due to the affordable computing power and the importance of data driven decision making, **Data Sciences in Finance** is getting very useful to make financial and investment decisions with great accuracy.

The use of **Artificial Intelligence** in Finance is reshaping the financial industry to make as perfect decisions as never before. There is a wide variety of **Machine Learning** Algorithms that fit perfectly in the financial data.

Although, Machine Learning can be used in every field to make predictions for better decision making, but making accurate predictions about the financial returns is an art. This is where **Machine Learning** plays a major role in Finance to guide financial returns by using historical data.

Useful Applications of Machine Learning in Finance:

Candlestick Chart:

Candlestick Chart is a powerful way to visualize the trends and changes in the stock market and other financial instruments. Most people use a Candlestick chart to visualize the trading patterns. To visualize data in the form of Candlesticks, we must have data that comprises open price, high price, low price, and close price.

It is mainly used in financial analysis. Japanese commodity Traders created this technique to build this type of chart, and initially, they were known as the **Japanese Candlesticks**.

Stock Price Prediction:

Stock Price Prediction means to determine the future value of the stocks or other financial instruments of an organization. If we master the art to predict stock prices, we can earn a lot by investing and selling at the right time, and we can even earn by mentoring other people who want to explore trading.

Facebook Prophet is an algorithm developed by Facebook's Core Data Science team. It is used in the applications of time series forecasting. It is very much used when there is a possibility of seasonal effects. The Time Series Forecasting is very much used in Stock Price Prediction.

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Trading Strategy:

Trading Strategy with Machine Learning, which can be used to determine when we should buy stocks and when we should sell. Generally, it is not easy to predict the stock market, but building a Trading Strategy using Machine Learning in Finance can make it easy.

This strategy can be used to generate the signals conveying when to invest in the Stock market or when to sell. It uses the strategy of three moving averages –

- Fast/Short,
- Middle/Medium,
- Slow/Long

GDP Analysis:

Gross domestic product (GDP) at current prices is the GDP at the market value of goods and services produced in a country during a year. In other words, GDP measures the **monetary value of final goods and services produced by a country/state in a given period of time.**

GDP can be broadly divided into goods and services produced by three sectors:

- The primary sector (Agriculture),
- The secondary sector (Industry), and
- The tertiary sector (services).

More technically, (real) GDP takes into account the price change that may have occurred due to inflation. This means that the real GDP is nominal GDP adjusted for inflation.