

Stock Market Trend Prediction Using LSTM Model

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ABSTRACT

Researchers have been studying different methods to effectively predict the stock market price. Useful prediction systems allow traders to get better insights about data such as: future trends. Also, investors have a major benefit since the analysis gives future conditions of the market. One such method is to use Deep learning algorithms for forecasting.

This project's objective is to improve the quality of output of the stock market graph trend predicted by using stock value. Accurately predicting the stock market is a challenging task and thus it requires extensive study and analysis of the pattern of various data. Nowadays, artificially intelligent machine learning algorithms along with statistical models are used to solve this challenge and predict market values more accurately than in earlier times.

Numerous machine learning and deep learning algorithms can make quite an accurate prediction with minimized error possibilities.

We are trying to compare various machine learning and deep learning algorithms to predict whether future values of stock prices will increase or decrease the previous values to predict whether there will be a positive or negative change and check their accuracy. In this project, we are using the following algorithms to train our models—

1. Long Short-Term Memory (LSTM)
2. LSTM with Attention Layer

for predicting the future values of prices of the stocks listed in US-based stocks trading on the NYSE, NASDAQ, and NYSE MKT based on historical prices.

It is observed that our hybrid combined model of LSTM and provides the most accurate results and has the minimum root mean square error.

