

STOCK MARKET PREDICTION



INTRODUCTION

This project aims to leverage the power of machine learning and deep learning techniques to predict stock prices. Specifically, it utilizes a Long Short-Term Memory (LSTM) network to train a robust model using historical data from Google stocks. By harnessing the capabilities of LSTM, which is a type of recurrent neural network (RNN), this project endeavors to accurately forecast future stock prices based on patterns and trends discovered in the historical data.

OBJECTIVES

1. Explore the challenges and complexities associated with stock price prediction in financial markets.
2. Investigate the suitability of LSTM networks, a type of recurrent neural network, for capturing long-term dependencies and temporal patterns in stock data.
3. Discuss the utilization of historical data from Google stocks to train and validate the LSTM model.
4. Showcase the implementation and performance evaluation of the LSTM network in predicting future stock prices.
5. Highlight the significance and potential applications of machine learning techniques in enhancing stock price prediction accuracy.

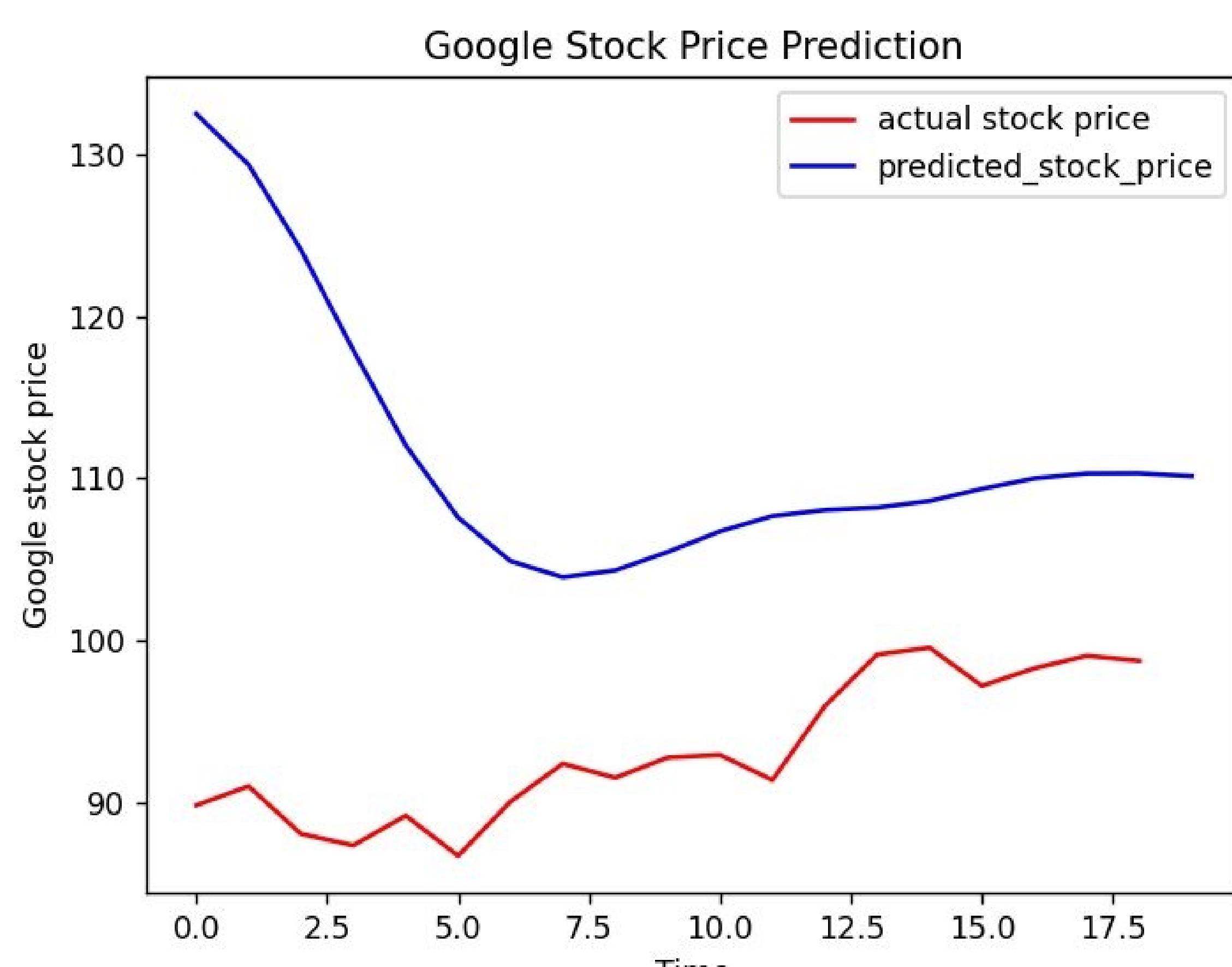
RESULTS

The process of using machine learning to predict stock prices involves analyzing historical data in order to identify patterns and trends that can be used to make predictions about future stock prices. This analysis is typically conducted using a technique called supervised learning, in which a machine learning algorithm is trained on historical stock price data in order to learn the relationships between various factors that influence stock prices.

Once the machine learning algorithm has been trained on historical data, it can be used to make predictions about future stock prices. These predictions are typically presented in the form of a graph that compares the predicted price of the stock to the actual price of the stock over a given period of time.

The resulting graph provides investors with a deep analysis of the trend of the stock market price based on the training data. This information can be used to make informed decisions about when to buy or sell stocks, based on the predicted future price of the stock.

Overall, the use of machine learning to predict stock prices is a powerful tool for investors and traders who are looking for ways to maximize their returns on investment. By analyzing historical data and making predictions about future stock prices, machine learning algorithms can help investors to stay ahead of the curve and make more profitable trades.



ANALYSIS

The performance of the LSTM model can be assessed based on its ability to accurately predict Google stock prices. Various factors should be considered in the analysis, including the chosen evaluation metrics, comparison with baseline models, and the significance of the predictions from an investment perspective.

Additionally, it is crucial to examine the model's generalization capabilities by testing it on unseen data, such as a validation set or out-of-sample data. This helps ensure that the model does not overfit to the training data and can generalize well to future stock price predictions.

CONCLUSION

In conclusion, the analysis of a machine learning model utilizing LSTM for predicting Google stock prices provides insights into its performance, strengths, and limitations. LSTM models have the potential to enhance decision-making in financial markets, but careful consideration should be given to model design, feature selection, data quality, and realistic expectations regarding predictive accuracy. Further research and experimentation can contribute to refining the model and improving its performance in predicting stock prices.

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