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Stock Price Prediction System using Machine Learning

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Abstract: *Stock price prediction is the process of using historical stock price data to forecast the future prices of a stock. The goal of stock price prediction is to identify patterns and trends in the historical data that can be used to predict the future prices with reasonable accuracy. There are many different approaches to stock price prediction, including technical analysis, fundamental analysis, and machine learning algorithms. Technical analysis involves the use of charts and technical indicators to identify trends and patterns in the historical stock price data. Fundamental analysis, on the other hand, involves the analysis of the financial and economic factors that can impact the stock price, such as earnings reports, economic indicators, and industry trends. Stock price prediction is an important area of research in finance and economics, with many different algorithms being used to predict future prices. One such algorithm is the Long Short-term memory (LSTM) Regression algorithm, which is a type of artificial neural network. This project presents a study of LSTM Regression algorithm for stock price prediction. The algorithm is trained on historical stock price data and used to predict the future prices of a stock. The performance of the algorithm is evaluated using various metrics, including the Mean Squared Error (MSE) and the coefficient of determination (R-squared). The results of the study show that LSTM Regression algorithm is a powerful tool for stock price prediction, and can provide accurate and reliable predictions for a wide range of stocks. The study also highlights the importance of selecting appropriate input features, and the need to carefully tune the hyperparameters of the algorithm to achieve optimal performance. Overall, the study demonstrates the potential of LSTM Regression algorithm for stock priceprediction, and provides insights into its strengths and limitations..*

Keywords: Stock price, Prediction, LSTM, Machine Learning, Python

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