Stock Market Prediction

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Abstract*: Stock market prediction is a complex task that involves analyzing financial data to predict future prices. Traditional models often struggle to capture the complex patterns and time dependencies present in stock prices. This paper introduces the use of short-term memory (LSTM) networks, a type of recurrent neural network (RNN), to predict stock prices. LSTM networks are well-suited for time series forecasting due to their ability to store long-term data and control the vanishing gradient problem. In this study, historical commodity price data is used to train an LSTM model that learns patterns in data over time to predict future market prices. The performance of the model was evaluated by various metrics including accuracy and mean square error (MSE), and the results were compared with traditional machine learning models such as linear regression and support vector machines (SVM). The findings show that the LSTM model provides a good way to predict the stock market, providing greater accuracy and robustness than traditional methods, but there are challenges that impact the market and market volatility persists. This study shows that the LSTM-based approach can be an important tool for financial analysts and traders, but further improvements are needed and they are trying to improve their predictive capabilities.*

Keywords: Stock market prediction, Machine Learning, Long short term memory, Recurrent Neural Network, Support vector regression