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Commodity and Stock Price Prediction using ML Time Series Regression, LSTM

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Abstract: *This study explores the application of machine learning (ML) techniques, specifically time series regression and Long Short-Term Memory (LSTM) networks, in predicting commodity and stock prices with a remarkable accuracy of 80%. The research leverages historical price data and relevant market indicators to develop predictive models capable of capturing intricate patterns within the financial time series. The time series regression model is employed to analyze the historical performance of commodities and stocks, identifying trends, seasonality, and other key factors influencing price movements. This serves as a robust foundation for understanding the underlying dynamics of the market. Concurrently, LSTM networks, a specialized form of recurrent neural networks, are utilized to capture long-term dependencies and intricate patterns in the data. The combination of these methodologies results in a comprehensive and accurate predictive framework. The achieved 80% accuracy underscores the effectiveness of the proposed approach in anticipating price fluctuations. This predictive capability has significant implications for investors, traders, and financial analysts, enabling them to make informed decisions and optimize their portfolios. The study contributes to the growing body of literature on ML applications in finance, showcasing the potential for advanced algorithms to enhance forecasting accuracy in dynamic and complex market environments. The findings not only provide valuable insights for financial professionals but also pave the way for further advancements in predictive modeling within the realm of commodity and stock price analysis.*

Keywords: Financial Time Series, Accuracy, Investment Strategies, Market indicators.

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