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GoldTrends: Gold Price Forecast System

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Abstract

The gold price variation is a major concern for investors, gold buyers and sellers, gold mining establishments and government since price of gold has significant impact on financial and economic activities take place throughout the world. The development of reliable forecasting system has the capability to offer the insights in gold price fluctuations and capture the price change and ultimately provide opportunity to gain profits and limit losses. Nevertheless, its challenging effort due to the multi influence factors and non-linearity nature in gold market.

The author has made use of deep learning approach forecasting model for accurate forecast of gold price. In this research study, Long Short-Term Memory (LSTM) Network with hyperparameters tuned used for the daily gold price forecasting. Several highly correlated predictor variables of gold price were used as multivariate inputs to build LSTM for forecasting gold price with the use of the dataset of daily prices over the period of January 2014 to March 2021 from Yahoo Finance.

Author conducted a sequence of trials and evaluated the proposed model opposed to the state of art machine learning and deep learning models. The experimental results exhibit that the proposed LSTM model has a magnificent performance in forecast with lowest Mean Absolute Error (MAE) and Root Mean Square Error (RMSE) and highest Coefficient of Determination (R^2) score. The proposed forecasting model distinguished as promising technique for gold price forecasting with experimental results.

Keywords: Gold price forecasting, Long Short-Term Memory Network, Deep learning, Multivariate