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(57) Abstract :

In recent years, Bitcoin has become the first decentralised digital currency to see a considerable rise in market capitalisation. This article aims to use machine learning and sentiment analysis to forecast the future direction of Bitcoin's price. We used supervised learning to investigate several machine learning methods to create a model for predicting future market prices. Time Series (ARIMA) models are challenging to evaluate precisely because of the difficulties in determining their exact nature. Recurrent Neural Networks (RNN) with long short-term memory cells are then implemented (LSTM). Using long short-term memory (LSTM) approaches, we analysed the time series model prediction of bitcoin prices with more efficiency. We compared the predictability of bitcoin price and sentiment analysis of bitcoin tweets to the conventional LSTM way (ARIMA). While the ARIMA model's root-mean-square error suggests that the LSTM with multi-feature is more accurate, the RMSE of LSTM (single feature) and(multi-feature) demonstrate the opposite.

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