

عنوان مقاله:

Short-term Prediction of Bitcoin Price based on Generative Adversarial Network

محل انتشار:

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خلاصه مقاله:

Background and Objectives: Investment has become a paramount concern for various individuals, particularly investors, in today's financial landscape. Cryptocurrencies, encompassing various types, hold a unique position among investors, with Bitcoin being the most prominent. Additionally, Bitcoin serves as the foundation for some other cryptocurrencies. Given the critical nature of investment decisions, diverse methods have been employed, ranging from traditional statistical approaches to machine learning and deep learning techniques. However, among these methods, the Generative Adversarial Network (GAN) model has not been utilized in the cryptocurrency market. This article aims to explore the applicability of the GAN model for predicting short-term Bitcoin prices. Methods: In this article, we employ the GAN model to predict short-term Bitcoin prices. Moreover, Data for this study has been collected from a diverse set of sources, including technical data, fundamental data, technical indicators, as well as additional data such as the number of tweets and Google Trends. In this research, we also evaluate the model's accuracy using the RMSE, MAE and MAPE metrics. Results: The results obtained from the experiments indicate that the GAN model can be effectively utilized in the cryptocurrency market for short-term price prediction. Conclusion: In conclusion, the results of this study suggest that the GAN model exhibits promise in predicting short-term prices in the cryptocurrency market, affirming its potential utility within this domain. These insights can provide investors and analysts with enhanced knowledge for making more informed investment decisions, while also paving the way for comparative analyses against alternative models operating in this dynamic field.

کلمات کلیدی:

Generative adversarial network, Short-term, Price Prediction, Cryptocurrency, Bitcoin

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