

High-Frequency Trading of Emerging Cryptocurrencies Using Deep Neural Networks

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Abstract

Artificial intelligence applied to finance has been an ongoing and substantial research area, resulting in significant and increasing levels of interdisciplinary interactions and fusions between data science, machine learning, finance and economics. In the last decades, research on the application of machine learning to the cryptocurrency market remains an important area of investigation. Many researchers have studied the use of machine learning methods in the cryptocurrency market, particularly for Bitcoin and Ethereum. Nevertheless, each day multiple emerging cryptocurrencies are appearing on the market and attracting crypto-investors, so more research on other new cryptocurrencies is needed. This article presents a comparison of deep learning methods in neural networks in the trading of emerging cryptocurrencies. Our study research shows that the technique Quantum Neural Networks has the most accurate and precise value and X2Y2 cryptocurrency has obtained the greatest level of accuracy. Our work offers the possibility to analyse the behaviour of the cryptocurrencies to reduce the potential risks in investing in young cryptocurrencies with a limited historical data of the market.

Keywords: algorithm trading, cryptocurrency, finance, artificial intelligence, portfolio strategy