Chapter 6
Metaverse in Investment Using Sentiment Analysis and Machine Learning

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ABSTRACT

At the end of 2019, individuals' outdoor activities were restricted due to the emergence of COVID-19. As a result of this phenomenon, interest in online activities and interaction in the metaverse environment has increased. Online games have exploded in popularity with the young generation in Metaverse where they can earn money through the platforms. Thus, it is desirable to investigate emerging technology and analyse how to invest using techniques, such as sentiment analysis and machine learning (ML), to predict crypto trends. This study analysed time series data for crypto price and text, where information like news, articles, and feedback from social media can use the input to generate the sentiment score to understand the crypto trends. FinBERT is a sentiment model that was used for this study to generate the result. The AI investing framework is built to incorporate both sentiment analysis technique and predictive model for this chapter, to address the research questions and enable one to make more informed decisions.

STUDY BACKGROUND

Metaverse investments can be made in the typical manner, for example, by buying stock related to metaverse technology companies such as Facebook, Nvidia, AMD (Robertson, 2021). Another approach is to concentrate on the emerging market of cryptocurrency economies, which is the frontier of investment on the metaverse and the forefront of this Web 3.0 internet revolution. Metaverse is an interconnected, immersive, 3D virtual environment in which people from all over the world may interact in real-time to create a lasting, user-owned internet economy that spans both the digital and physical worlds (Lee, 2021). However, several crucial components of the metaverse are already in place and are reshaping the worlds of business, entertainment, and even real estate. An open-world metaverse like Decentraland is a good example of the hype: users can log in to play games, earn MANA (Cryptocurrency – the native token with which users can purchase non-fungible tokens (NFT), including land or collectibles, and vote on economy governance commonly known as decentralised autonomous organisations (DAO)), or create NFTs, giving them real world interoperability for the value of their time spent in-game (Han et al., 2021). New waves of cryptocurrency investment have been accelerated by Facebook's decision to change its name from "Facebook" to "Meta" US (Ritter, 2021) as a sign of the internet's potential to evolve, as well as the spotlight on this emerging market.

The cryptocurrency (crypto) market has thousands of different varieties of crypto, making it challenging to apply predictive algorithms for investments that rely mainly on previous data. Investors who are new to cryptocurrency investment will face difficulties analyzing massive data from internet, especially when looking for Metaverse-related token or coins. With this challenge, investors can explore the innovative technique to make decisions by apply sentiment analysis and artificial intelligence (AI) algorithms to anticipate crypto trends based on social media and financial news data. An important consideration in investing decisions is the use of sentiment analysis, commonly known as "opinion mining," (Pascual-Ezama et al., 2014) which gathers information about what people think and feel about a certain subject of interest.

Making an informed decision on whether to sell or buy crypto requires the ability to predict the direction of the crypto market. In order to maximise profits, the investor buy crypto that is expected to rise in value and sells it at a high price to make money in the crypto market, an investor needs to be able to anticipate market moves. The crypto market has been impacted by a current trend in 2021 where the CEO of Facebook, Mark Zuckerberg, has announced that the company's name will be changed to "Meta" effective Thursday, Oct 28, 2021, in New York City (Ritter, 2021). One of the factors influencing market and investor decisions is news and search frequency for Metaverse. Investors who are well-versed in the news, particularly those who have previously made a significant profit in gaming related to the metaverse concept, may be able to anticipate market emotion and price movements in the cryptocurrency market. In contrast, the price of metaverse-related currencies like Decentraland (MANA), The Sandbox (SAND), and Enjin (ENJ) rise to all-time high from 517.94%, 314.15% and 234.02% (Refer to 1.1, 1.2 and 1.3) respectively after Mark Zuckerberg announced the changes to Facebook's name. By analysing a large amount of data in a short period of time, the compute engine helps investors react and respond more swiftly. Scientific evaluation of this study will take place, but first we must look at the methodology used.

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