XRP Price Prediction using NLP and LSTM Network Model

[Document subtitle]

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# Git-Repository

Documentation and code can be located in a Git-repository:

<https://github.com/jaydendzierbicki/webcrawl-long-short-term-memory-network>

# Overview

As the world embraces a cashless society, cryptocurrency and blockchain technology are gaining widespread acceptance. With an increasing number of Australians investing in cryptocurrency, many seek effective buy or sell signals to optimize their potential returns. However, quick desktop research on online forums dedicated to XRP reveals over 35,000 posts; deciphering valuable insights without data science expertise proves to be a daunting task which could valuable in determining buy, sell or hold signals. To tackle this challenge, we suggest employing NLP sentiment analysis to forecast price movements within a specific timeframe using the long short-term memory (LSTM) model, which has demonstrated potential for cryptocurrencies like ETH and BTC. Our primary focus is on XRP, owing to its vibrant community, significant market presence, and ongoing developments in the SEC Vs Ripple case in the United States which has gained widespread media attention. Our proposed model falls under the quantitative technical analysis umbrella and seeks to encompass novice, intermediate, and experienced investors to mitigate limitations and biases that could arise from concentrating on a single user type by attempting to scrape data from multiple forums instead of limiting our scope to one. We plan to collect data from an array of sources, initiating with a broad scope to ensure contingencies are in place. Web crawling and scraping techniques will be employed to amass data from various sources, such as Yahoo Finance and Investing.com. Nevertheless, we must guarantee that no personal information, like usernames or names of posters, is scraped, as stipulated in the Terms of Service (ToS) on some websites. The subsequent step involves preprocessing and converting the data to ready it for our LSTM network. During this phase, we must exercise caution as removing stop words could significantly alter the text's meaning. We will contemplate reducing the data's dimensions, as LSTM networks can be time-consuming to train. Our model will harness Word2Vec to allow the algorithm to comprehend the context of words within the text corpus. We must remain vigilant about the ethical and legal considerations of data gathering and scraping. ToS on websites form a contractual obligation, and we are presently examining this facet. In conclusion, our proposed model aspires to predict XRP price movements using sentiment analysis and LSTM networks. By undertaking data gathering, preprocessing, and model development, we aim to deliver valuable insights into cryptocurrency price fluctuations.

# Data Wrangling

# Machine Learning

# Conclusion & Lessons Learned

# Reference