BITCOIN TRADING

Can the inclusion of Twitter microblogging data improve the performance of Deep Reinforcement Learning models for Bitcoin trading?

10 Deep Reinforcement Learning (DRL) models were developed in Python and fed with **5 years** worth of data from:

6.3 million tweets...

and their contents' sentiment analyzed to extract their authors' attitude towards Bitcoin

Google Trends...

search engine volume regarding the term "bitcoin" to measure public interest in the currency

Blockchain data...

like miners' revenue and hash rate, to reflect the internal mechanics of the Bitcoin network

Deep Reinforcement Learning

was used to train and backtest the models on a custom Bitcoin trading environment

Buy ? Sell

RESULTS

after a 181-day backtesting period:

- The Twitter data fed DRL model achieved an **ROI of 158.5%**
- A DRL model that combined Twitter, Google Trends, and Bitcoin blockchain data realized an **ROI of 213.3%**
- A buy-and-hold strategy, used for benchmarking, achieved an **ROI of 83.3%**
- The results suggest that including Twitter data in DRL models **significantly improve** Bitcoin trading performance

Trading Strategies in the Cryptocurrency Market: A Twitter-based Deep Reinforcement Learning Approach for Bitcoin

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