Impacts of Positive and Negative Comments of Social Media Users to Cryptocurrency

Husnu S. Narman

Alymbek Damir Uulu

Weisberg Division of Computer Science

Marshall University

narman@marshall.edu

https://hsnarman.github.io/
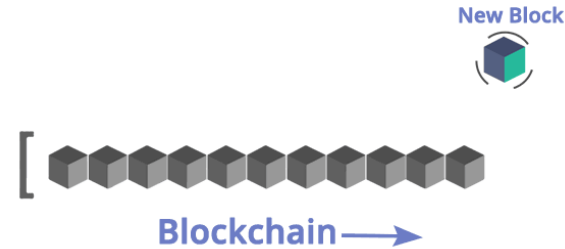
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Outline

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- Positivity and Negativity
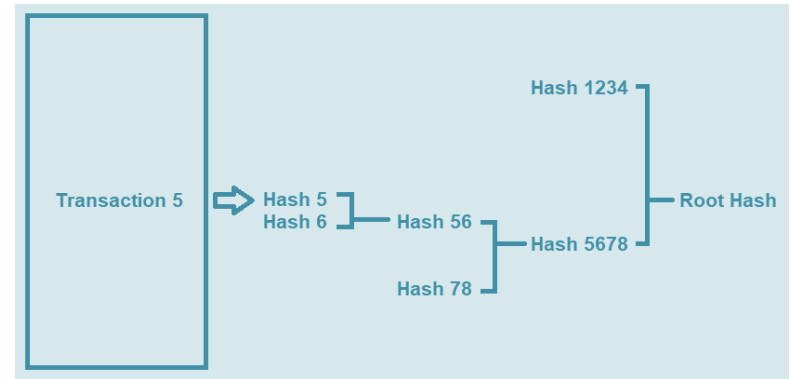
- Selected Cryptocurrencies

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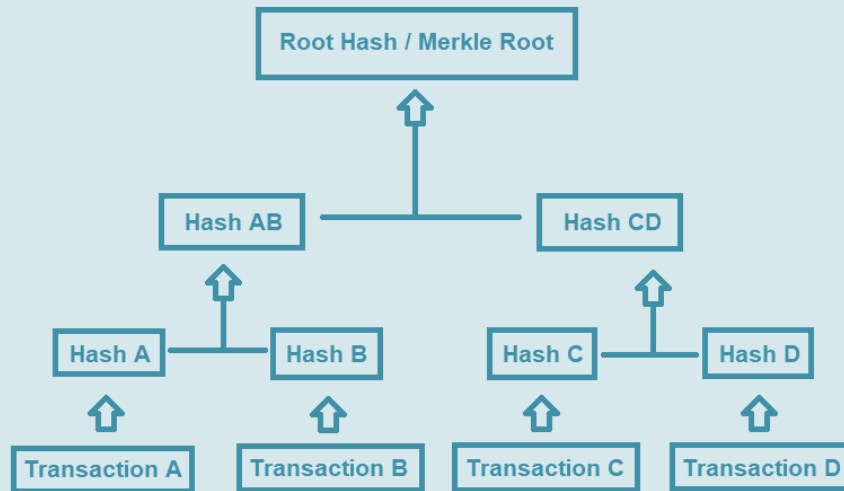# Introduction

New Block

Blockchain

- **Blockchain** ushers in a new era for the global financial system.

- One application is Cryptocurrency.

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Cryptocurrency

- Verification of transactions

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Understanding Public Opinion

- Protect new investors

- Interested parties

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Understanding Public Opinion

- Using social media activities of cryptocurrency related forums

- Twitter, Reddit, YouTube and etc.

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Social Media Analysis for Bitcoin

- Strong interaction between the social media sentiment and the Bitcoin price
- Tendency for investors to overreact to the news on social media within a short period.

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Previous Works

There are several works which analyze cryptocurrency in terms of security, privacy, applications, usability, regulations, and technology.

- We are interested in **mood** of the users who are active in social media which related to cryptocurrencies.

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Objective

The objective of this research is to analyze the comments of the users who are active in six cryptocurrency subreddits (Bitcoin, Bitcoin Cash, Dash, Ether, Litecoin, and Ripple) in terms of positivity and negativity by using users' comments for each coin subreddit on Reddit.

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Data Gathering Model

- Reddit can have one or more subreddits for each cryptocurrency.

- Each cryptocurrency can have a number of posts in each subreddit

- Each post can have many comments from a number of users because users tend to respond to posts that match their interests

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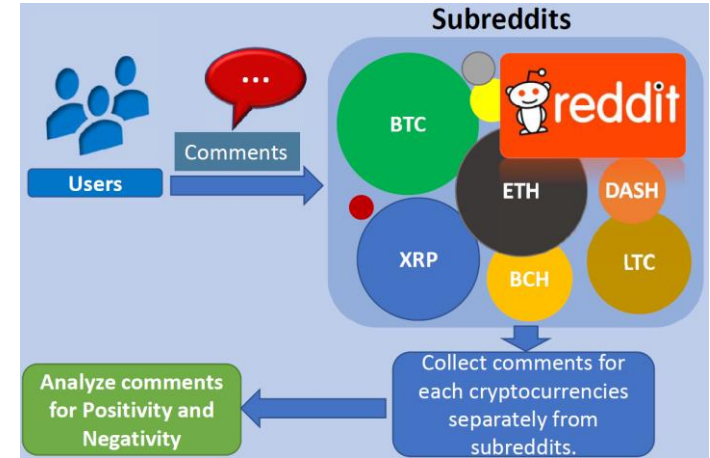
Data Gathering Model and Issues

- Ten to seventy top posts for each cryptocurrency to collect distinct usernames.

- It is possible that the user is interested in the coin, but has not invested in it.

- Informal structure of the comments (no or missing punctuation, shortened words and so forth), the obtained results approximate to the mood of users.

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Positivity and Negativity

- Valence Aware Dictionary and Sentiment Reasoner (VADER)*
  - Rule based
  - Quick and computationally economical without sacrificing accuracy (up to 80%)
- Mood (changes from negativity to positive or vice verse)
  - All comments
  - Top comments
- The number of comments

C. Hutto and E. Gilbert, "Vader: A parsimonious rule-based model for sentiment analysis of social media text," in Eighth International Conference on Weblogs and Social Media (ICWSM-14), June 2014.

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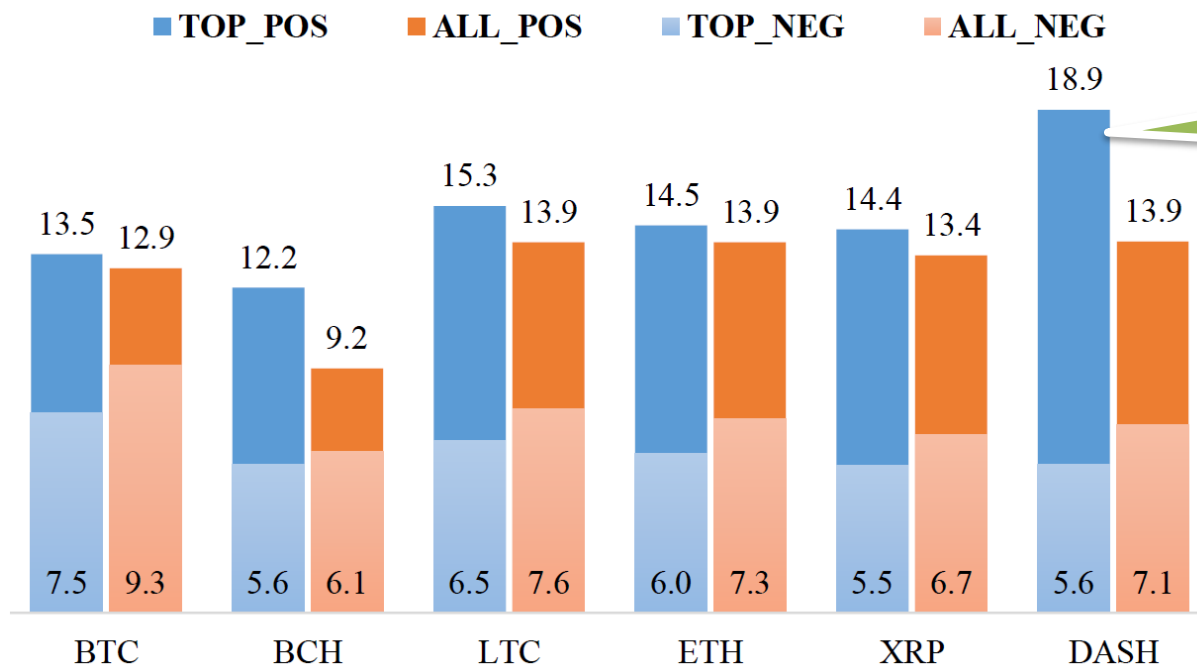
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Selected Cryptocurrencies

Eight Cryptocurrencies

A. Bitcoin (BTC)
B. BitcoinCash (BCH)
C. Etherium (ETH)
D. Litecoin (LTC)
E. Dash (DASH)
F. XRP

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Result for average positivity and negativity (%) between 2017-2019

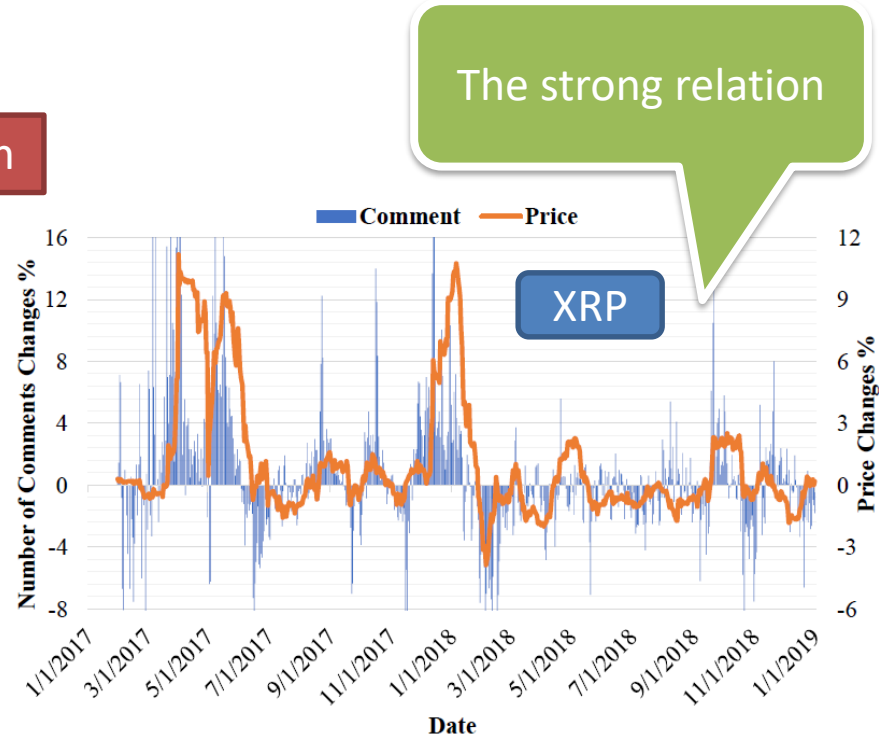DASH has the highest positivity

BCH and XRP has the lowest negativity

Neutrality is between 75%-85%.

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Results

The number of comments and price relation

The strong relation

XRP

BTC
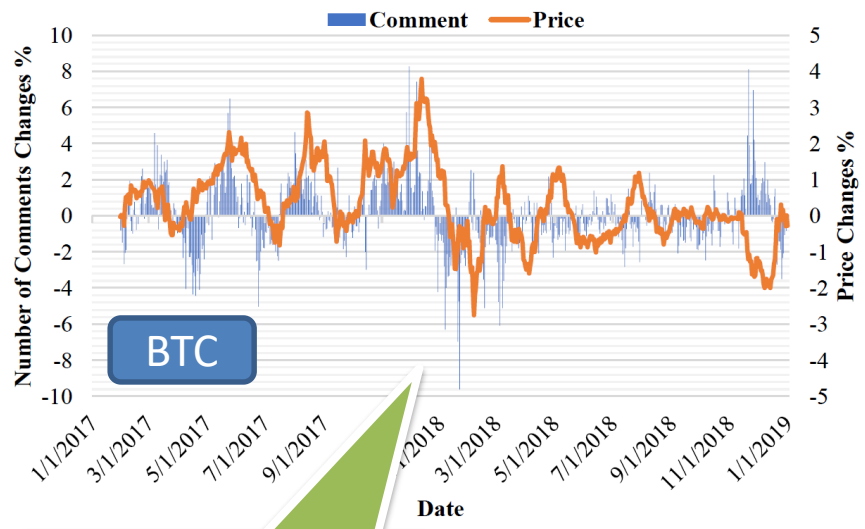
In 2018, not strong relation

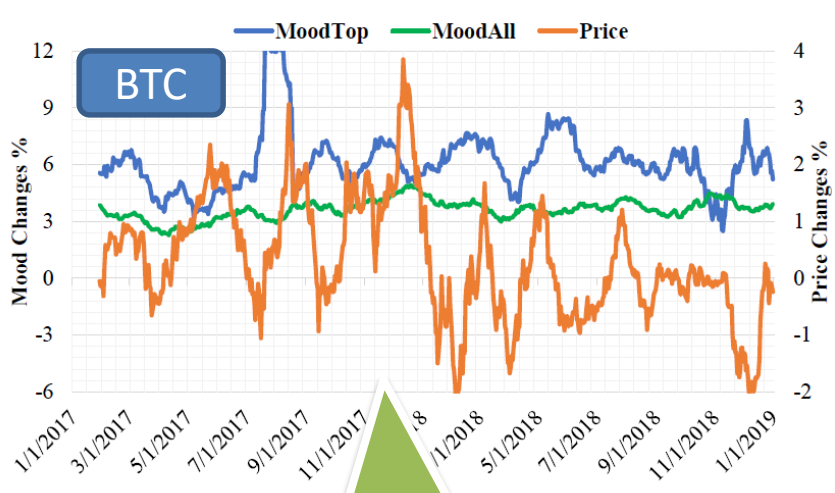Husnu S. Narman

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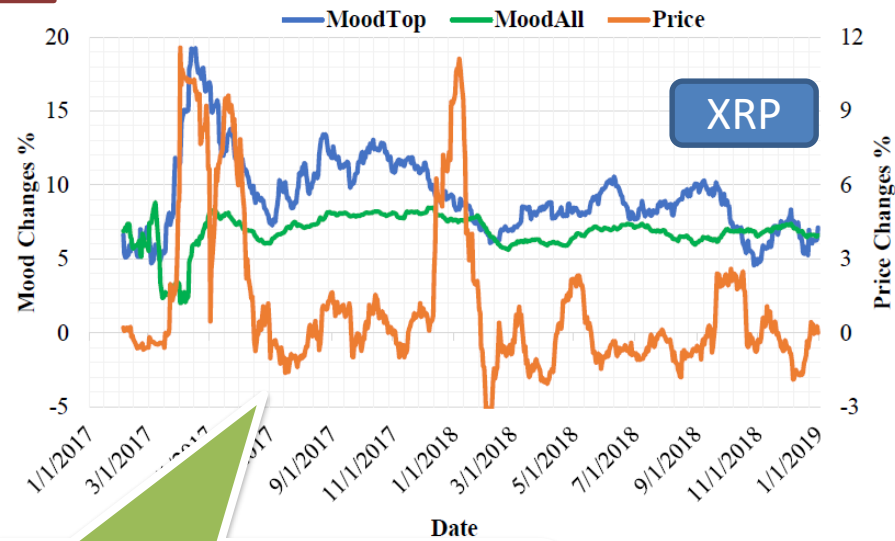
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The number of comments and price relation

BTC

XRP

Top comments and price have better relation than all comments.

Top comments and price have again better relation than all comments.
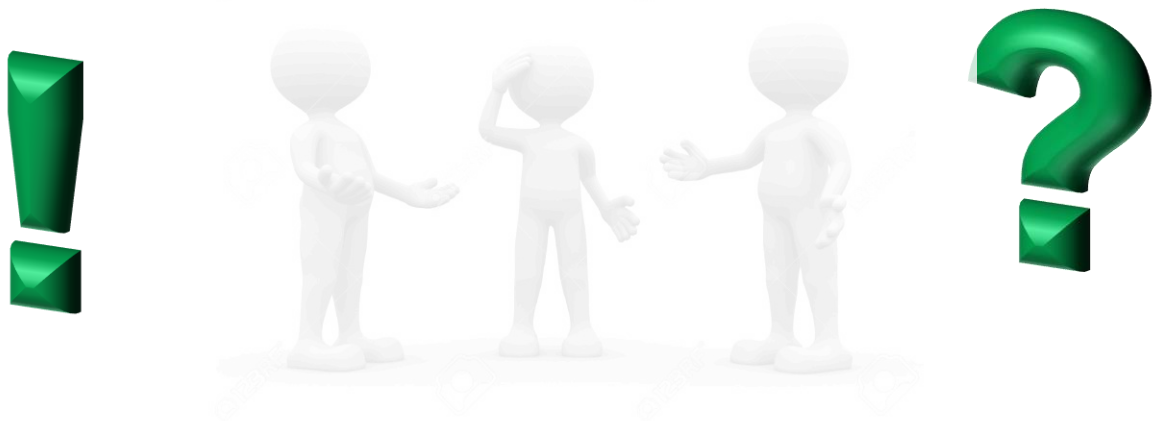
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Conclusion

There is a relation between the number of comments and price movements for all coins.

The positivity is higher than negativity in all digital currencies. It is worth to note that the neutrality of comments approximately varies between 75% and 85% for coins.

Price changes affect mood measured by using topmost comments in a day more than mood measured by using all comments in a day. Additionally, the effects of mood changes on price movements are also observed for some coins like BTC.

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Thank You

narman@marshall.edu

https://hsnarman.github.io/

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