Sensing Twitter for social signals on cryptocurrencies

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Problem

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- Retrieve Tweets from Twitter API
- Annotate them with sentiment, extract entities
- Calculate time series of key metrics
- Visualize results in real time in a web browser

Twitter API

streaming tweets

retrieving and processing
(Amazon EC2)

storing tweets

mongoDB database
(spaceml4.eth.ch)

retrieving statistics

web frontend and visualization
(client browser)

web socket

server backend
(Google Cloud Platform)

Twitter API filter keywords

blockchain

altcoin

cryptocurrency

token
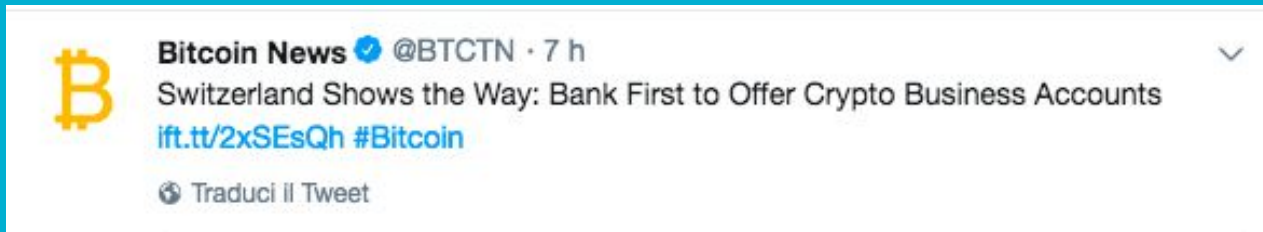
bitcoin

ethereum

litecoin

cardano

monero

iota

tethe

We track 50 cryptocurrencies

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Bitcoin, Ethereum, Ripple,Bitcoin Cash, EOS, Litecoin, Cardano, Stellar, IOTA, TRON, NEO, Monero, Dash, Tether, NEM, VeChain, Binance Coin, Ethereum Classic, Qtum, Ontology, OmiseGO, Bytecoin, ICON, Lisk, Zcash, Zilliqa, Aeternity, Bitcoin Gold, Decred, 0x, Bytom, Steem, Verge, BitShares, Siacoin, Nano, RChain, Golem, Maker, Wanchain, Bitcoin Private, Populous, Bitcoin Diamond, Stratis, Augur, Waves, Dogecoin, IOST, DigixDAO

Natural Language Processing, on tweets.

Bitcoin News ✔ @BTCTN · 7 h
Switzerland Shows the Way: Bank First to Offer Crypto Business Accounts
ift.tt/2xSEsQh #Bitcoin

🌐 Traduci il Tweet

@PincoPallino17
This new ICO is cleary a scam…

0.53 Negative Sentiment

Collect mentioned accounts...

@ErmenegildoZ
I mostly use @pretacoin to exchange and store small amounts.

...and cryptos-related tweets...

@StylishUmberto
The price of SalsaCoins is going up, so thrilled!

...and sense the global sentiment about it.

Bitcoin +0.82
-0.22
+0.71
-0.10
-0.34

ETH +0.13
-0.22
+0.12
-0.10
-0.97

@CryptoNews -0.97
-0.22
+0.13
-0.10

Have a global overview of trends.

Most Mentioned Accounts

- @CoinExpert
- @BitcoinTrade
- @CryptoMobile

Most Positive Accounts

- @MrDilliberg
- @JuanMoto

Most Mentioned New Cryptos

- Metamoto
- PizzaCoin

An example negative Tweet

@elypratama
9.6.2018. 07:51:17

"It's future exchange. Don't waste time to wait and see for this project. Be part of @capital_company now.\n#CapitalTechnologiesResearch, #blockchain, #privacy, #security, #ethereum, #bitcoin"

"sentiment_score" : -0.4215,
"coins" : ["bitcoin"]

An example neutral Tweet

@jordanc95026067
9.6.2018. 07:38:04

"Get More Tokens: Send a minimum of 0.001ETH to 0xd506e5e57e22c695bf28c96e73c296051177a678, and get 444,444 tokens.\n\nThe more you send, The more you receive!\n\nGwei: 10\nGas: 150,000\n\n#airdrop #erc20 #eth #ethereum #Bitcoin #freetoken #freecoin"

"sentiment_score" : 0,
"coins" : ["bitcoin","ethereum"]

An example positive Tweet
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@tonarino_aoi
9.6.2018. 07:38:05

"NEM's Smart Asset system allows anyone to completely customize how they use the NEM blockchain, with a robust set of features including domain-like namespaces and full on-blockchain Multi-signature control.\n#NEM #XEM #altcoin #altcoins #blockchain #bcoin #crypto #cryptocurrency https://t.co/biK15kyNSV"

"sentiment_score" : 0.765,
"coins" : ["nem","xem"]

Demonstration!

Live demonstration:

`http://35.234.78.152:3000/twitter_keywords`

Github repository:

`https://github.com/DS3Lab/CDteam1`