

# Cryptocurrencies Prediction & Forecast

Group 14:

Cheng-Hao Ho(ch3561)

Shuoting Kao(sk4920)

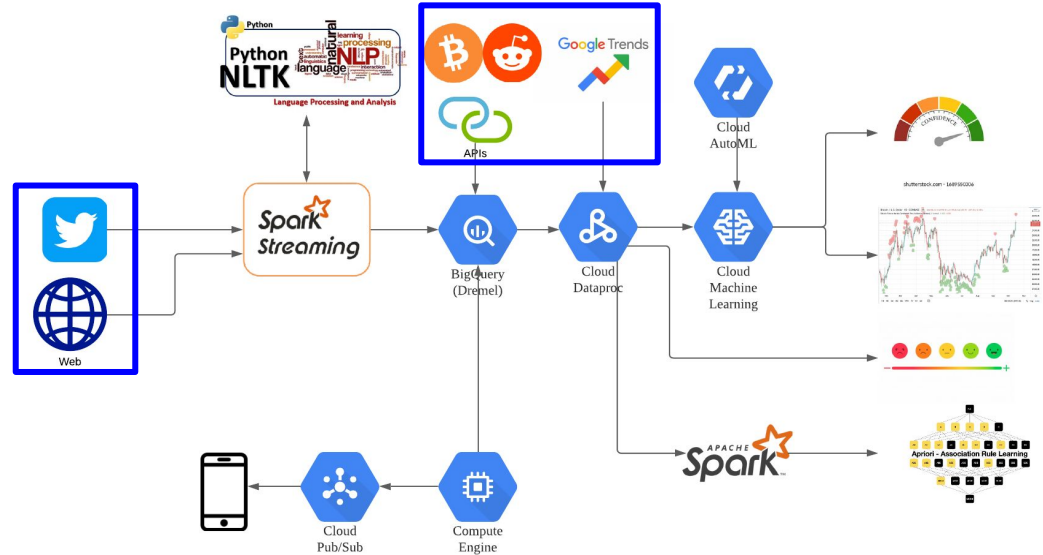
Wei-Ren Lai(wl2777)

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# Data Collection

- Ticks
- Huge Asset Transfer Record
- Twitter
- Google Trend



# Data Collection

Ticks - 1.6K pairs

## Table overview for Binance.Info

### Statistics

Ready

About 1.6K documents

▲id	baseAssetP...	baseCommis...	filters	icebergAll...	isMarginTr...	isSpotTrad...	last_updat...	ocoAllowed
AAVEUPUSD	8	8	▶ [ ... ]	true	false	false	16373037813...	true
AAVEUSD	8	8	▶ [ ... ]	true	true	true	16373037813...	true
ACMBTC	8	8	▶ [ ... ]	true	false	true	16373037813...	true
ACMBUSD	8	8	▶ [ ... ]	true	false	true	16373037813...	true
ACMUSD	8	8	▶ [ ... ]	true	false	true	16373037813...	true
ADAAUD	8	8	▶ [ ... ]	true	false	true	16373037813...	true
ADABIDR	8	8	▶ [ ... ]	true	false	true	16373037813...	true
ADABKRW	8	8	▶ [ ... ]	true	false	true	16373037813...	true
ADABNB	8	8	▶ [ ... ]	true	false	true	16373037813...	true
ADABRL	8	8	▶ [ ... ]	true	false	true	16373037813...	true

# Data Collection

Ticks - every 30 minutes, 43M records

## Table overview for Binance.Tick

### Statistics

 Ready

 About 43M [documents](#)

close	high	ignore	low	number_of_...	open	symbol	time_close	time_open
0.00011925	0.000168	0	0.00000851	10698	0.00000851	1INCH	16088741999...	16088724000...
0.00010947	0.00012347	0	0.00010716	6470	0.00012	1INCH	16088759999...	16088742000...
0.00009763	0.00011329	0	0.0000941	6041	0.00010947	1INCH	16088777999...	16088760000...
0.00010693	0.0001082	0	0.00009551	5302	0.00009765	1INCH	16088795999...	16088778000...
0.00011762	0.00011763	0	0.00010047	5772	0.00010634	1INCH	16088813999...	16088796000...
0.00011025	0.00012298	0	0.0001085	6971	0.00011791	1INCH	16088831999...	16088814000...
0.00011304	0.00011499	0	0.00010347	4804	0.00011162	1INCH	16088849999...	16088832000...
0.00011029	0.0001195	0	0.000108	5614	0.00011306	1INCH	16088867999...	16088850000...
0.00011154	0.000116	0	0.00010898	3951	0.00011007	1INCH	16088885999...	16088868000...
0.00011023	0.0001129	0	0.00010718	2582	0.00011124	1INCH	16088903999...	16088886000...

# Data Collection

Huge Asset Transfer - every 10 seconds [Demo](#)

▲id	action	dest	price	source	symbol	timestamp	usd
1743992900	transfer	huobi	1099017		btt	1637269608	3684
1743992903	transfer		289059	huobi	usdt	1637269611	289059
1743992905	transfer		50000		usdt	1637269614	50000
1743992908	transfer	okex	23000		usdt	1637269617	23000
1743992916	transfer		36552		usdt	1637269620	36552
1743992917	transfer	huobi	119308		usdt	1637269620	119308
1743992918	transfer		26330	huobi	usdt	1637269620	26330
1743992960	transfer		265000		usdt	1637269626	265000
1743992963	transfer	coinbase	18111		eos	1637269623	75031
1743992983	transfer	kucoin	11990		usdt	1637269635	11990

# Tweets sentiment analysis on bitcoin

## Problem

- Unable to call Google NLP API at worker nodes
- Inefficient approach because of network overhead

## Solution

- NLTK

## Approach

- Criteria for tweets

## Evaluation

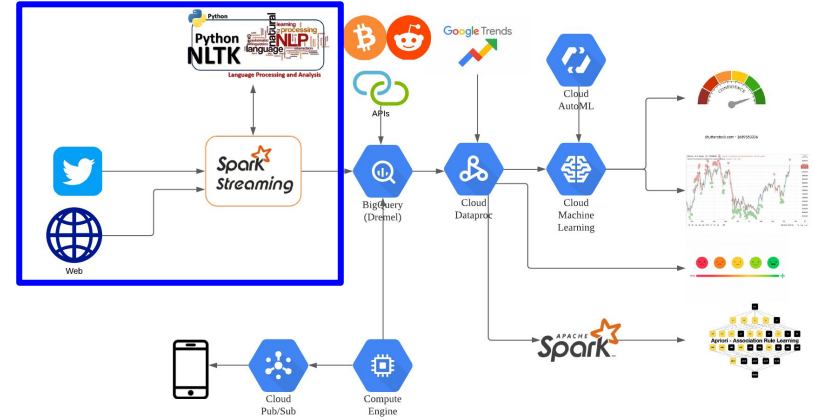
- Quantitative analysis on correlation between BTC price/volume vs. sentiment analysis results

## Result

- See the next slide

## Next

- Long-term evaluation
- Only process tweets related to crypto through classification
- Work on the other data path



$$r_{xy} = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}}$$

# Tweets sentiment analysis on btc results

- neg: Negative
- neu: Neutral
- pos: Positive
- compound: aggregated score

57,849.30 USD

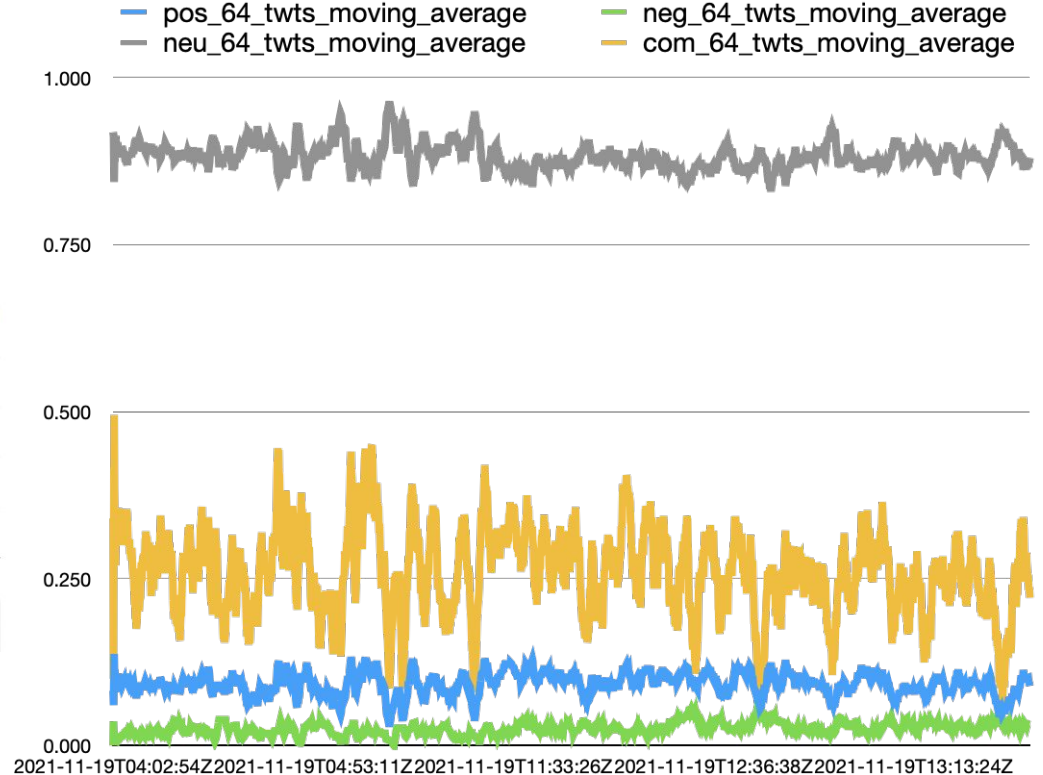
+951.30 (1.67%) ↑ today

Nov 19, 2:24 PM UTC · From Coinbase and Morningstar · [Disclaimer](#)

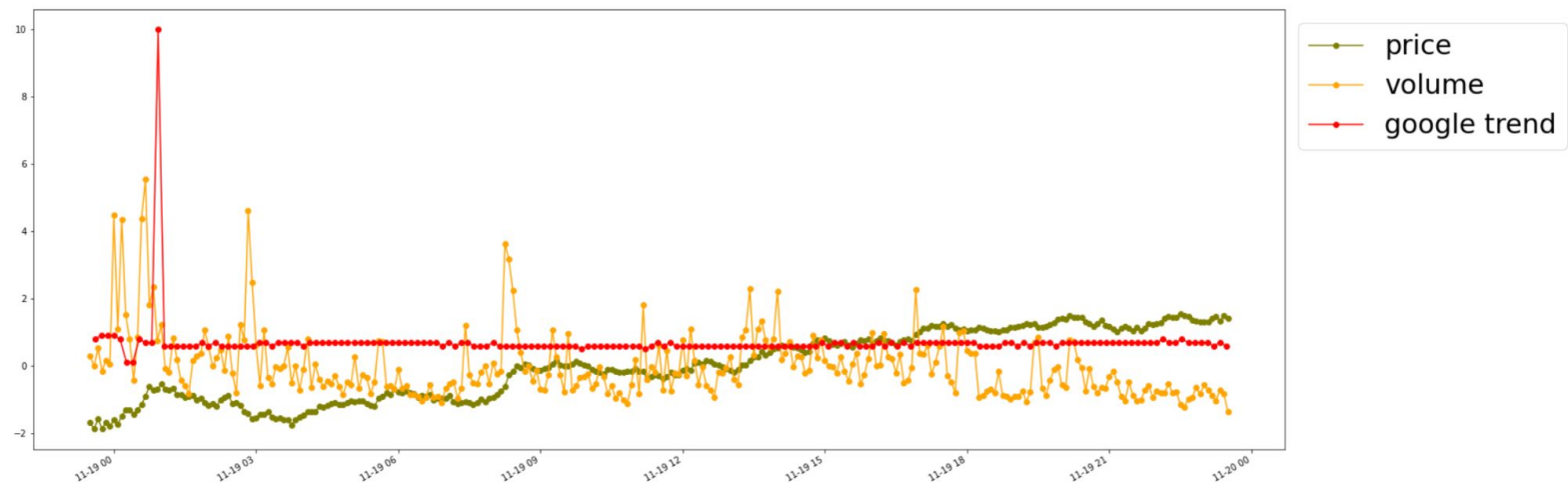
1D 5D 1M 6M YTD 1Y 5Y Max



UTC 4 AM to 1 PM



# Google Trends Analysis



Problem: Need to find the relationship between google trends and price

Possible solution: Granger Causality / Recurrent NN-based Models / Transformers-based Models

Evaluation: Granger causality test / MSE

Next Step: Long term evaluation & hyperparameter tuning & add more features



# Reference

1. [https://medium.com/general\\_knowledge/watch-the-whales-101-guide-to-wallet-tracking-8ff5799f3dc4](https://medium.com/general_knowledge/watch-the-whales-101-guide-to-wallet-tracking-8ff5799f3dc4)
2. <https://github.com/manthanthakker/BitcoinPrediction>
3. <https://col-jung.medium.com/how-to-make-realistic-cryptocurrency-price-predictions-436f3f6f54e3>