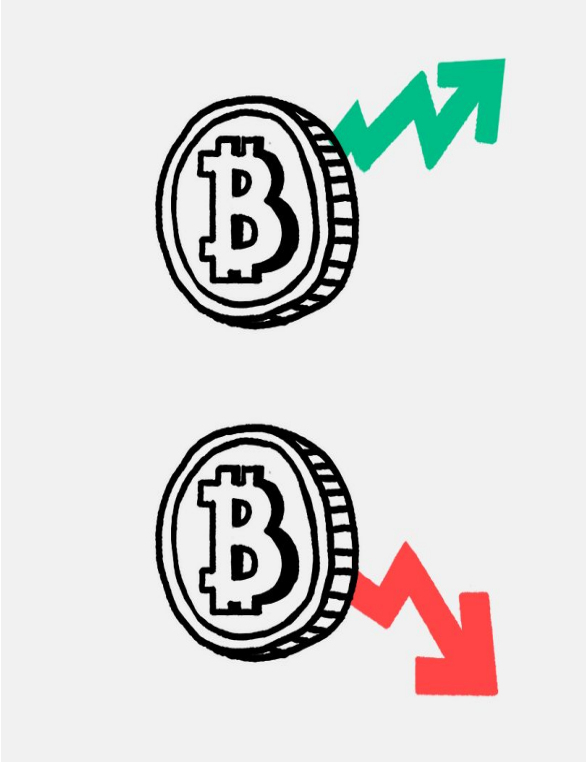
Bitcoin data analysis

Aim & Business Value

To discover insight of bitcoin value from data in previous years

Provide valuable information base on number

Help you understanding Bition market



Data scraping, preprocessing and cleaning

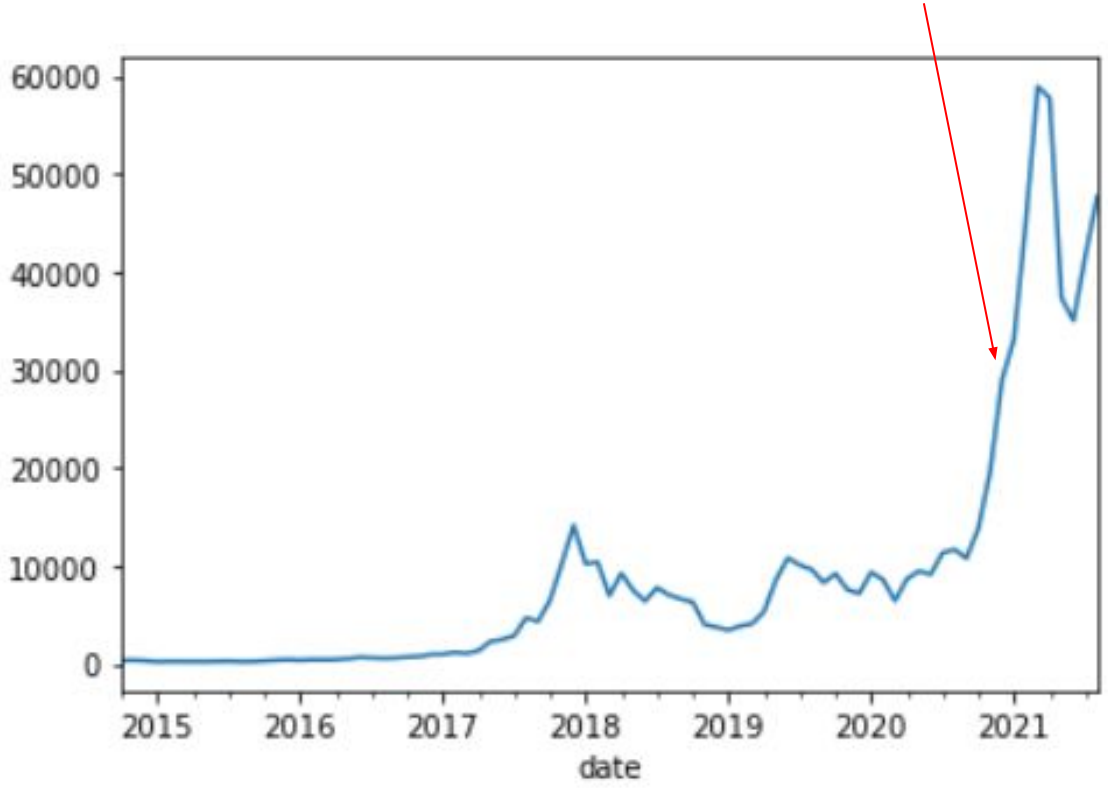
Date	Open	High	Low	Close*	Adj Close**	Volume
Aug 26, 2021	49,076.32	49,334.75	48,181.17	48,184.21	48,184.21	32,845,334,528
Aug 01, 2021	41,460.84	50,482.08	37,458.00	47,706.12	47,706.12	793,815,083,850
Jul 01, 2021	35,035.98	42,235.55	29,360.96	41,626.20	41,626.20	819,103,381,204

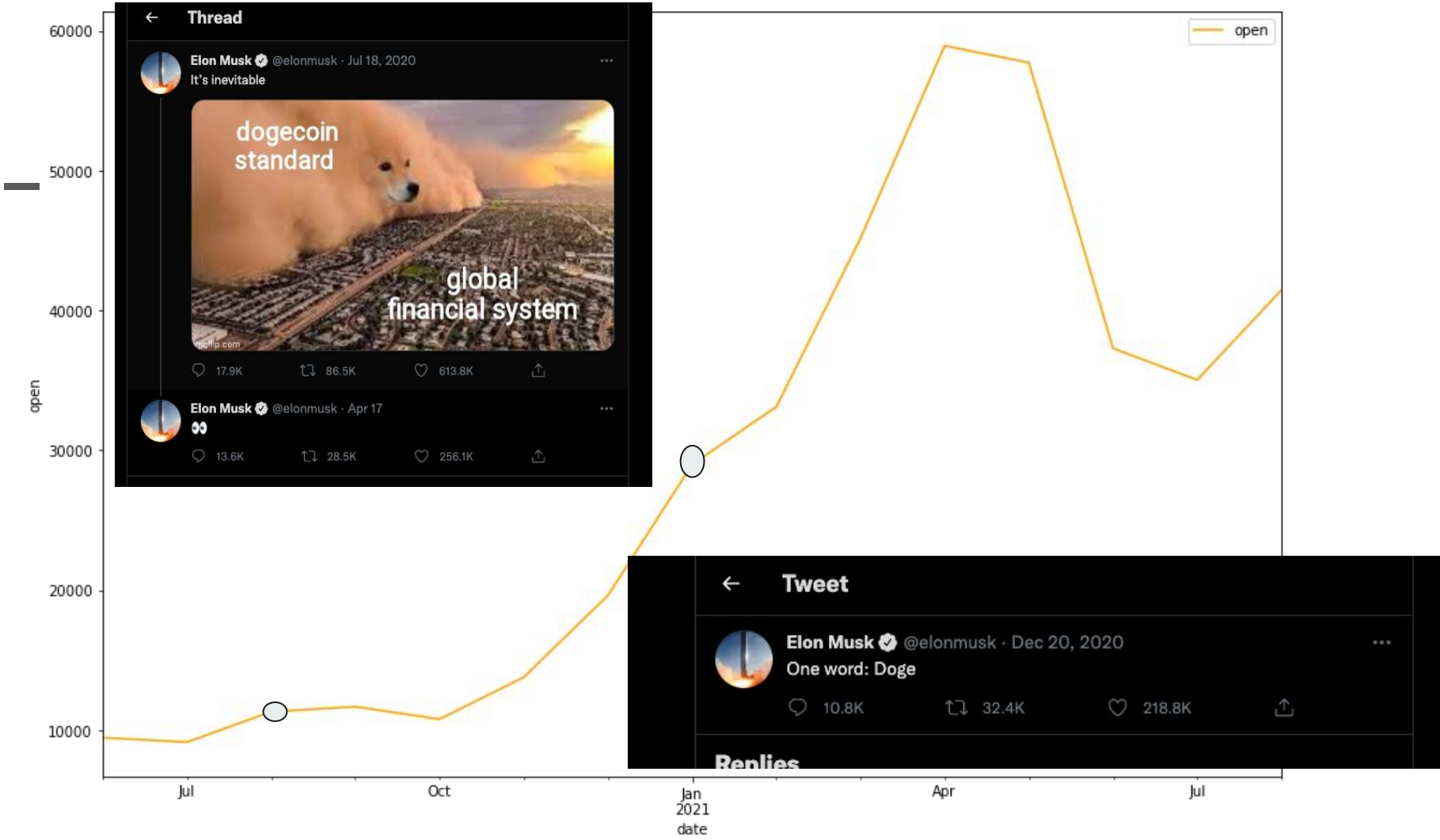
Beautiful soup for scraping data

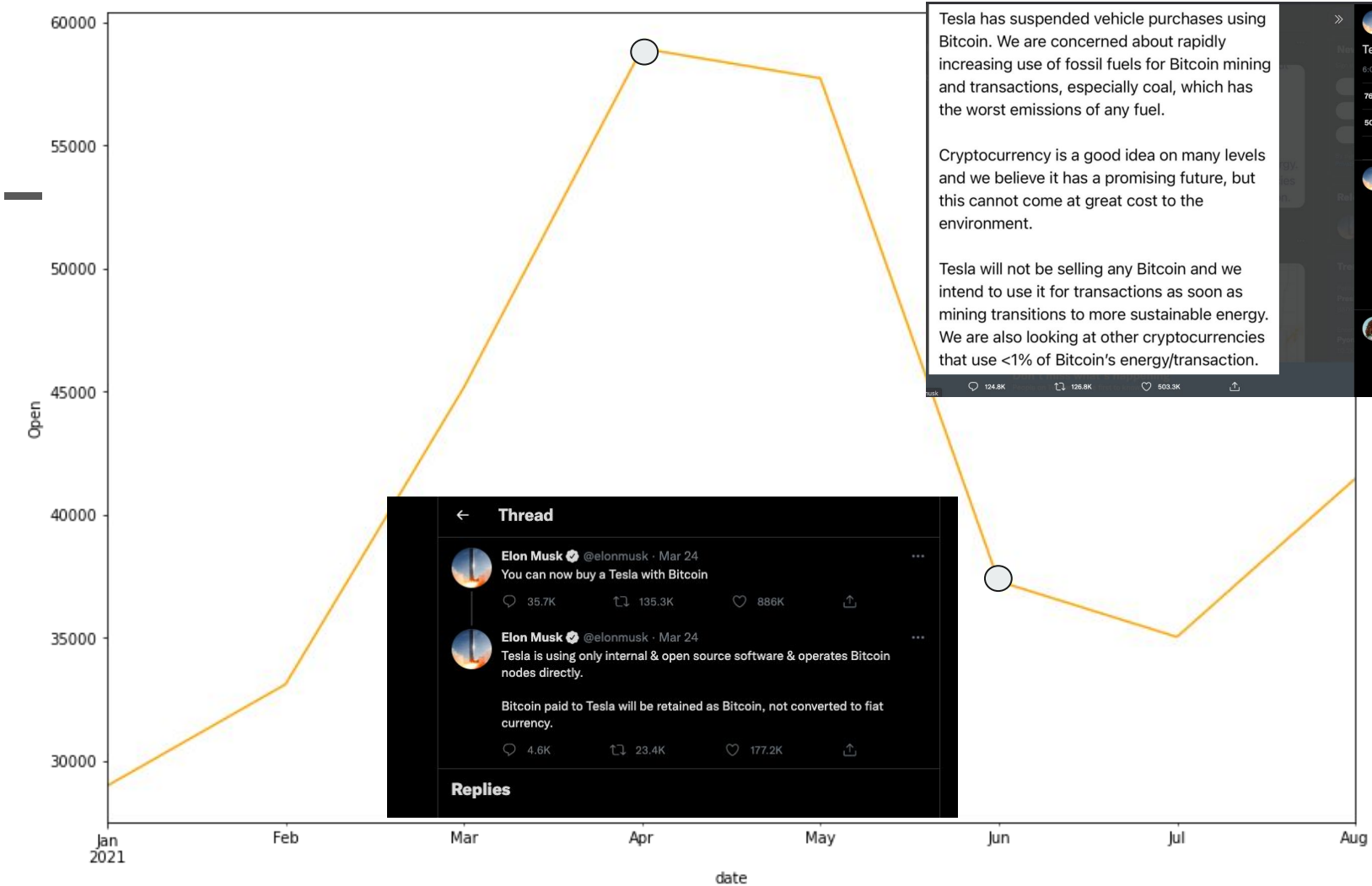
Convert data to correct data type

Remove unnecessary character in data

Analysis - Value of bitcoin from 2014-2021




open
60000
50000
40000
30000
20000
10000
Jul
Oct
Jan
2021
Apr
Jul
date
Thread
Elon Musk @elonmusk · Jul 18, 2020
It's inevitable
dogecoin standard
global financial system
17.9K
86.5K
613.8K
Elon Musk @elonmusk · Apr 17
13.6K
28.5K
256.1K
Tweet
Elon Musk @elonmusk · Dec 20, 2020
One word: Doge
10.8K
32.4K
218.8K
Replies



Tesla has suspended vehicle purchases using Bitcoin. We are concerned about rapidly increasing use of fossil fuels for Bitcoin mining and transactions, especially coal, which has the worst emissions of any fuel.

Cryptocurrency is a good idea on many levels and we believe it has a promising future, but this cannot come at great cost to the environment.

Tesla will not be selling any Bitcoin and we intend to use it for transactions as soon as mining transitions to more sustainable energy. We are also looking at other cryptocurrencies that use <1% of Bitcoin's energy/transaction.

124.8K 126.8K 503.3K

Elon Musk @elonmusk

Tesla & Bitcoin

6:06 AM · May 13, 2021 · Twitter for iPhone

76.5K Retweets 50.2K Quote Tweets

503.3K Likes

Elon Musk @elon... · May 13

Replying to @elonmusk

Energy usage trend over past few months is insane cbeci.org

24K 12.5K 90K

JimmiΞ @jimmieverse · May 13

Replying to @elonmusk

Let's make Doge on Moon the official mobile game of the DOGE-1 launch!

dogeonmoon.com

WOW

← Thread

Elon Musk @elonmusk · Mar 24

You can now buy a Tesla with Bitcoin

35.7K 135.3K 886K

Elon Musk @elonmusk · Mar 24

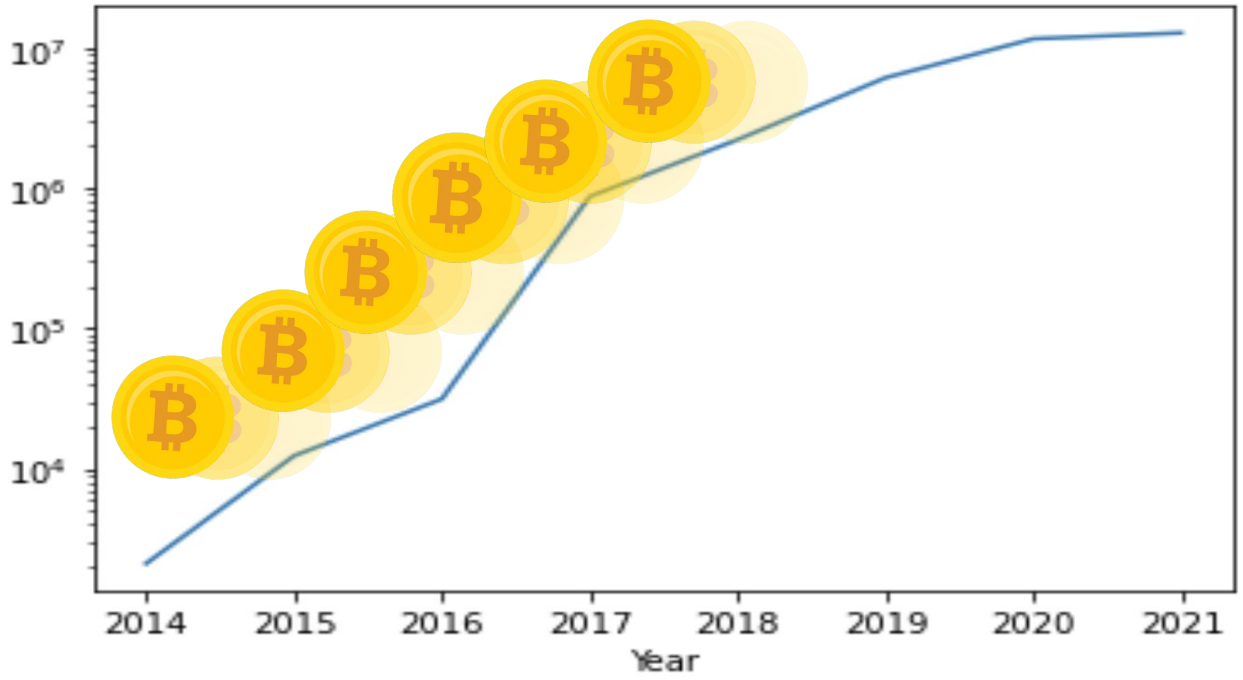
Tesla is using only internal & open source software & operates Bitcoin nodes directly.

Bitcoin paid to Tesla will be retained as Bitcoin, not converted to fiat currency.

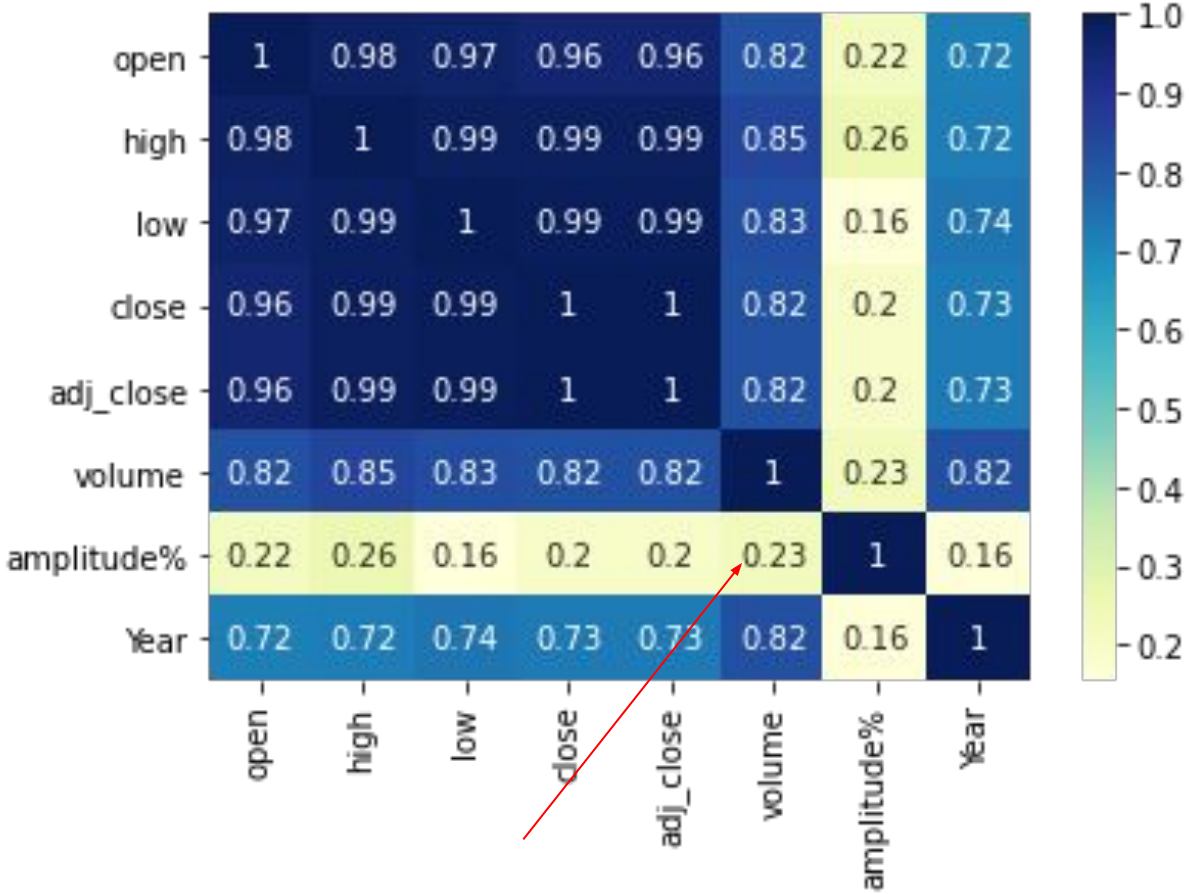
4.6K 23.4K 177.2K

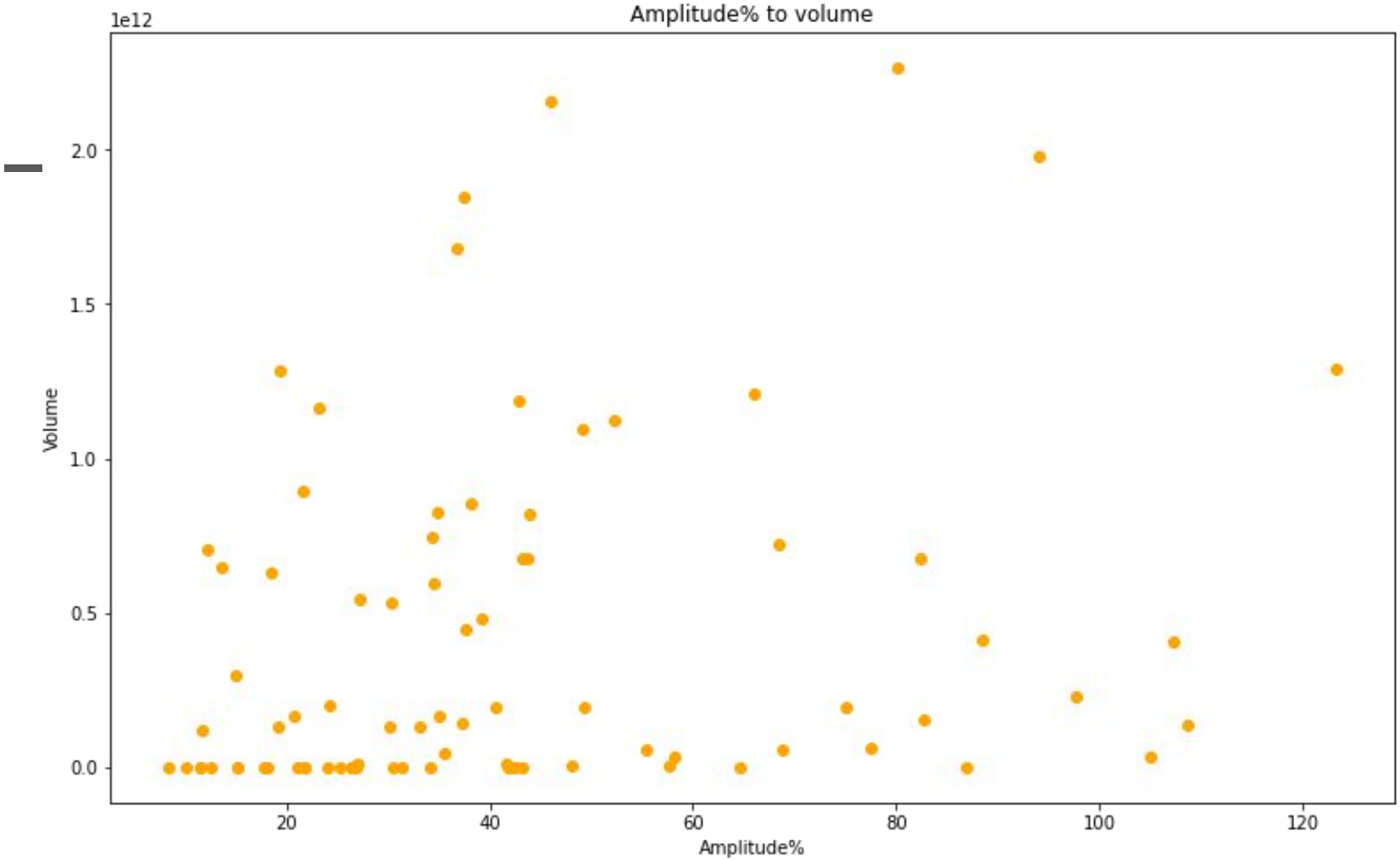
Replies

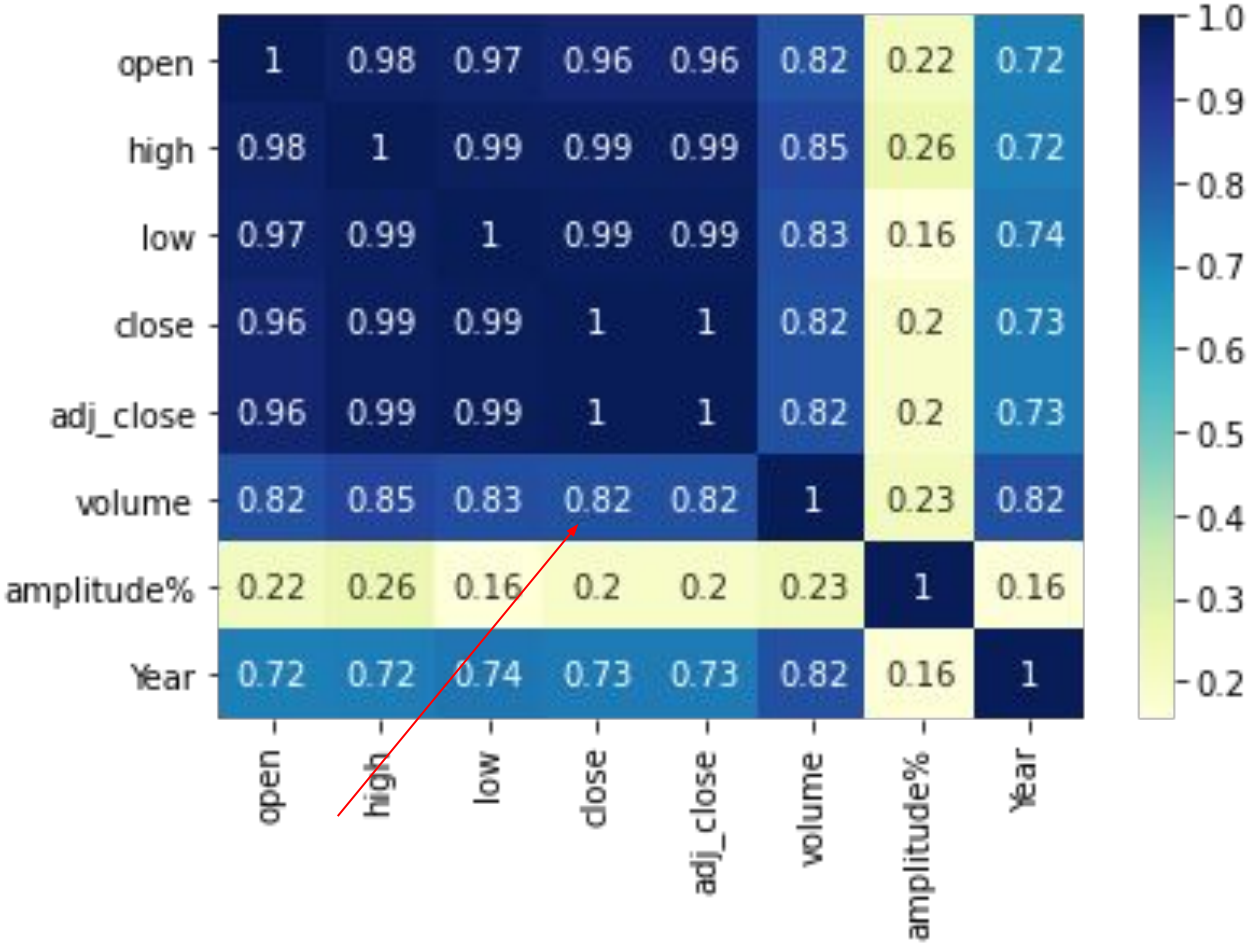
Volume of bitcoin from 2014-2021

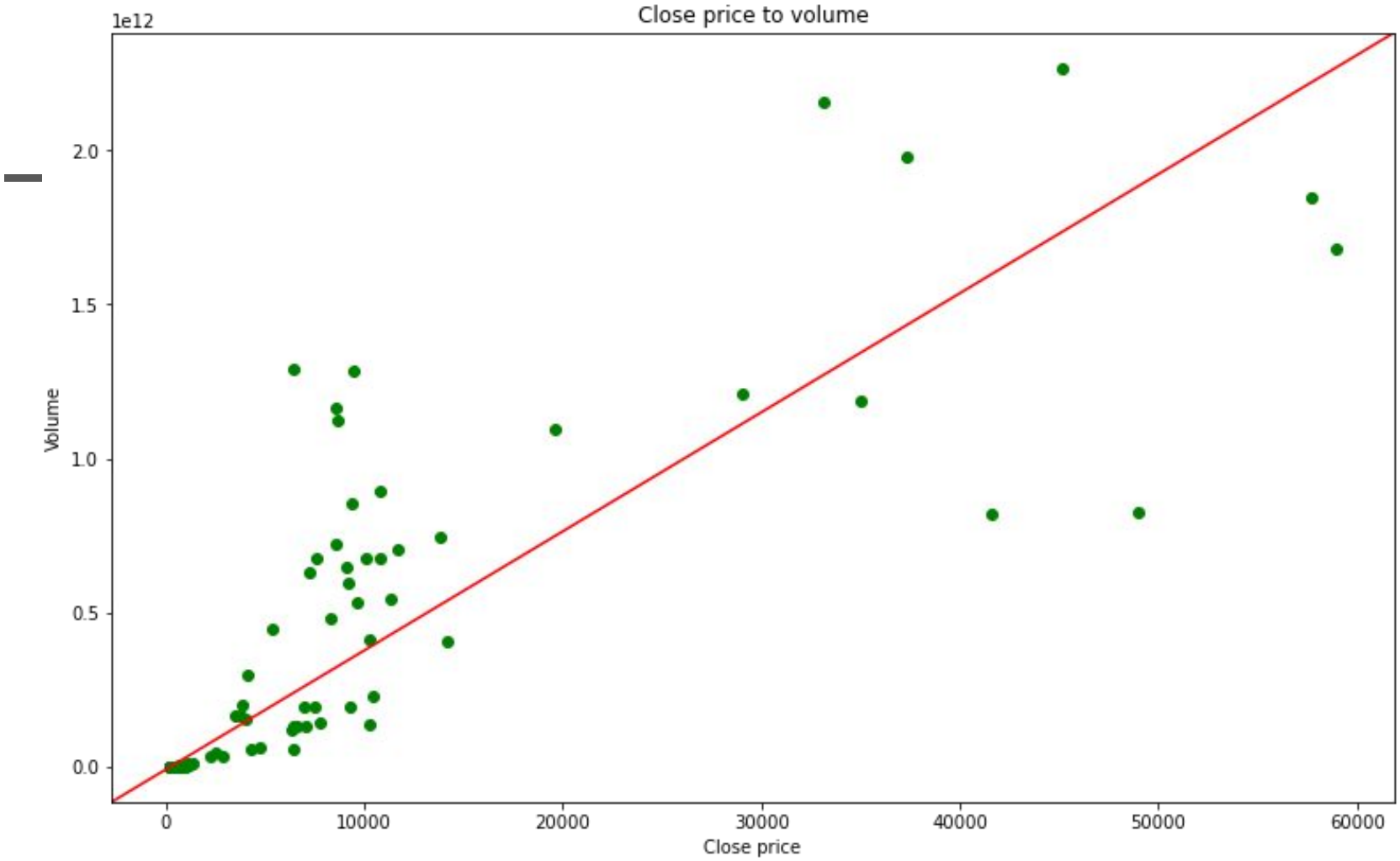


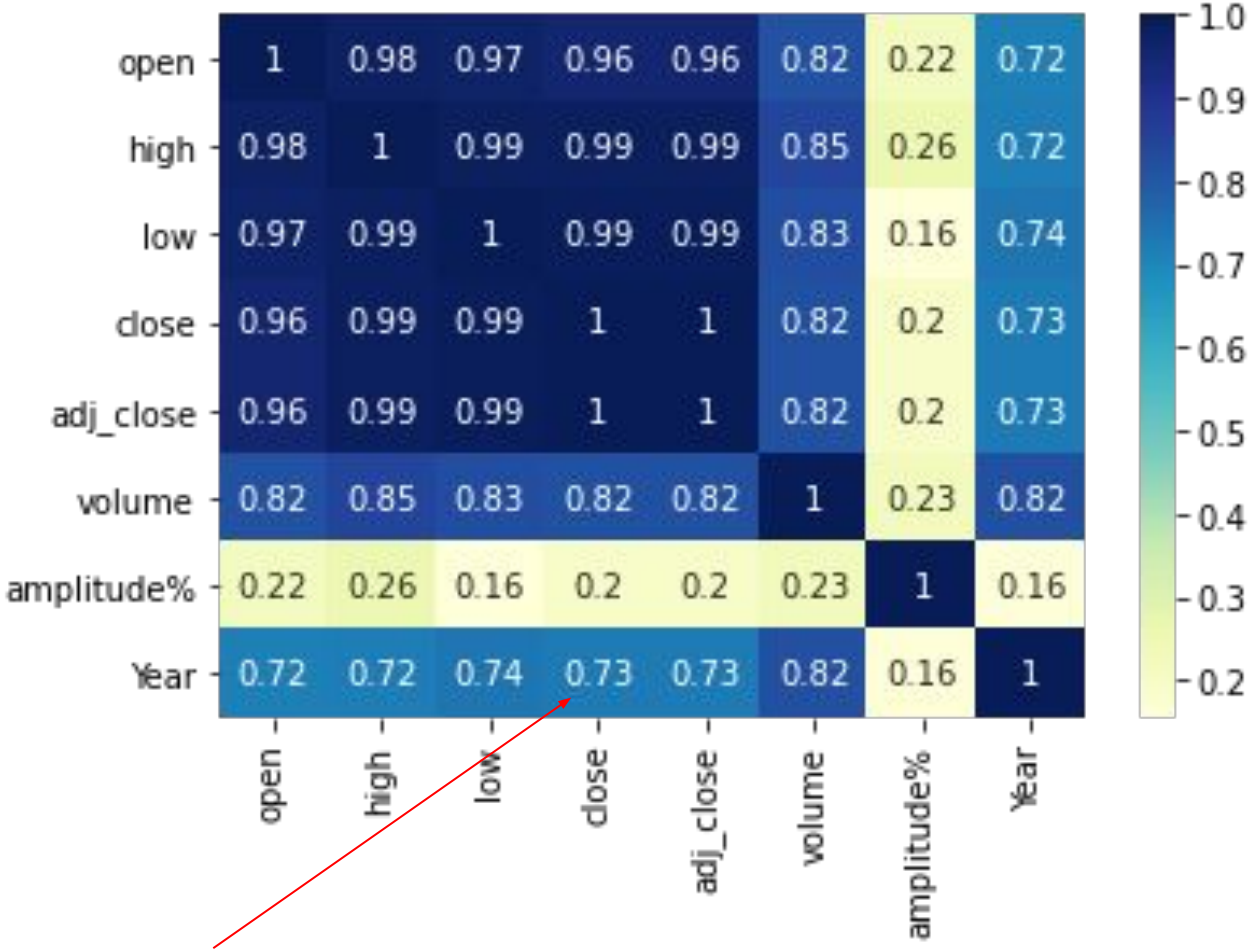
Correlation table

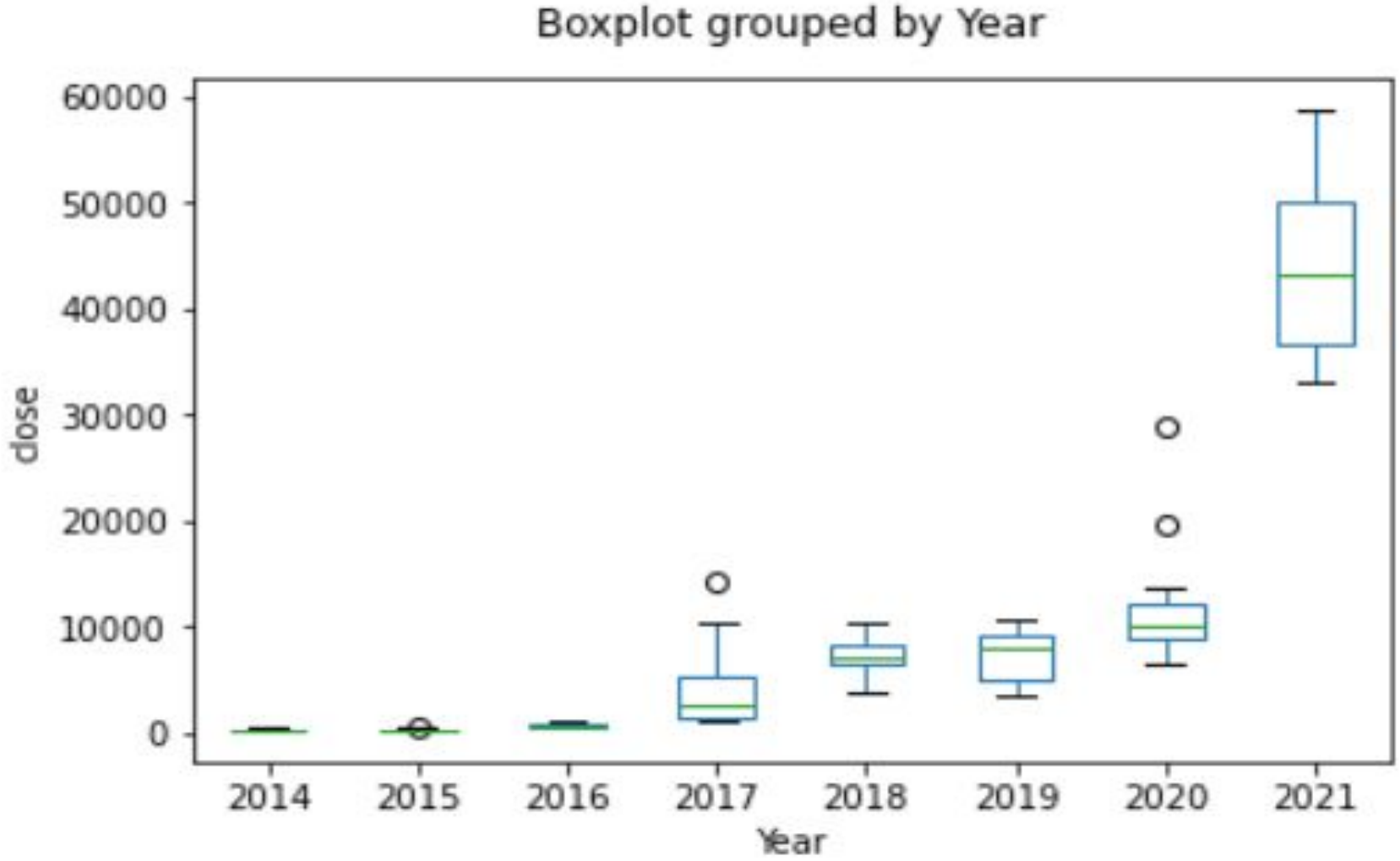


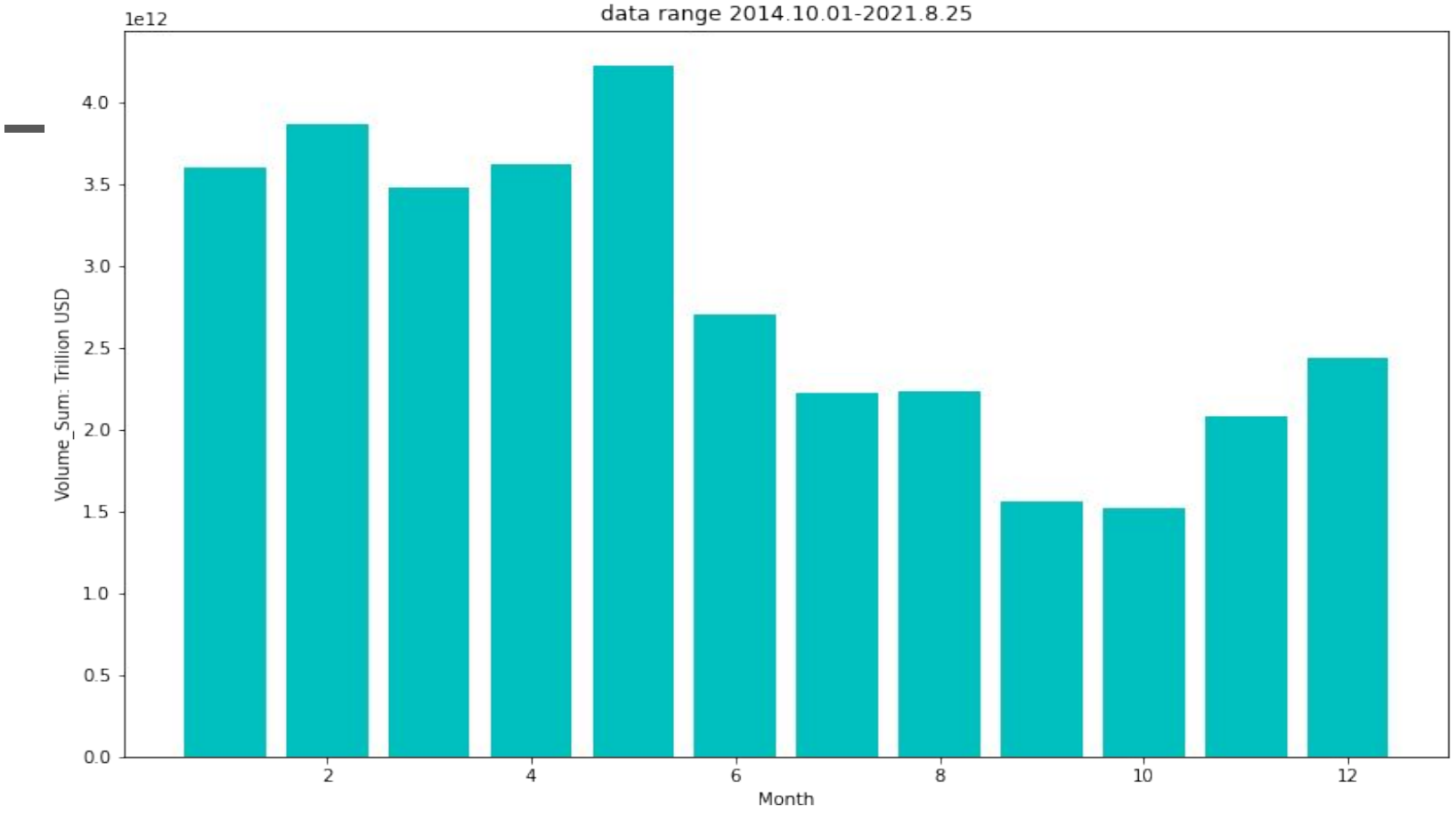

Amplitude% to volume
1e12
2.0
1.5
1.0
0.5
0.0
Volume
20
40
60
80
100
120
Amplitude%


open 1 0.98 0.97 0.96 0.96 0.82 0.22 0.72
high 0.98 1 0.99 0.99 0.99 0.85 0.26 0.72
low 0.97 0.99 1 0.99 0.99 0.83 0.16 0.74
close 0.96 0.99 0.99 1 1 0.82 0.2 0.73
adj_close 0.96 0.99 0.99 1 1 0.82 0.2 0.73
volume 0.82 0.85 0.83 0.82 0.82 1 0.23 0.82
amplitude% 0.22 0.26 0.16 0.2 0.2 0.23 1 0.16
Year 0.72 0.72 0.74 0.73 0.73 0.82 0.16 1
open
high
low
close
adj_close
volume
amplitude%
Year
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2


Close price to volume
1e12
2.0
1.5
1.0
0.5
0.0
Volume
0
10000
20000
30000
40000
50000
60000
Close price

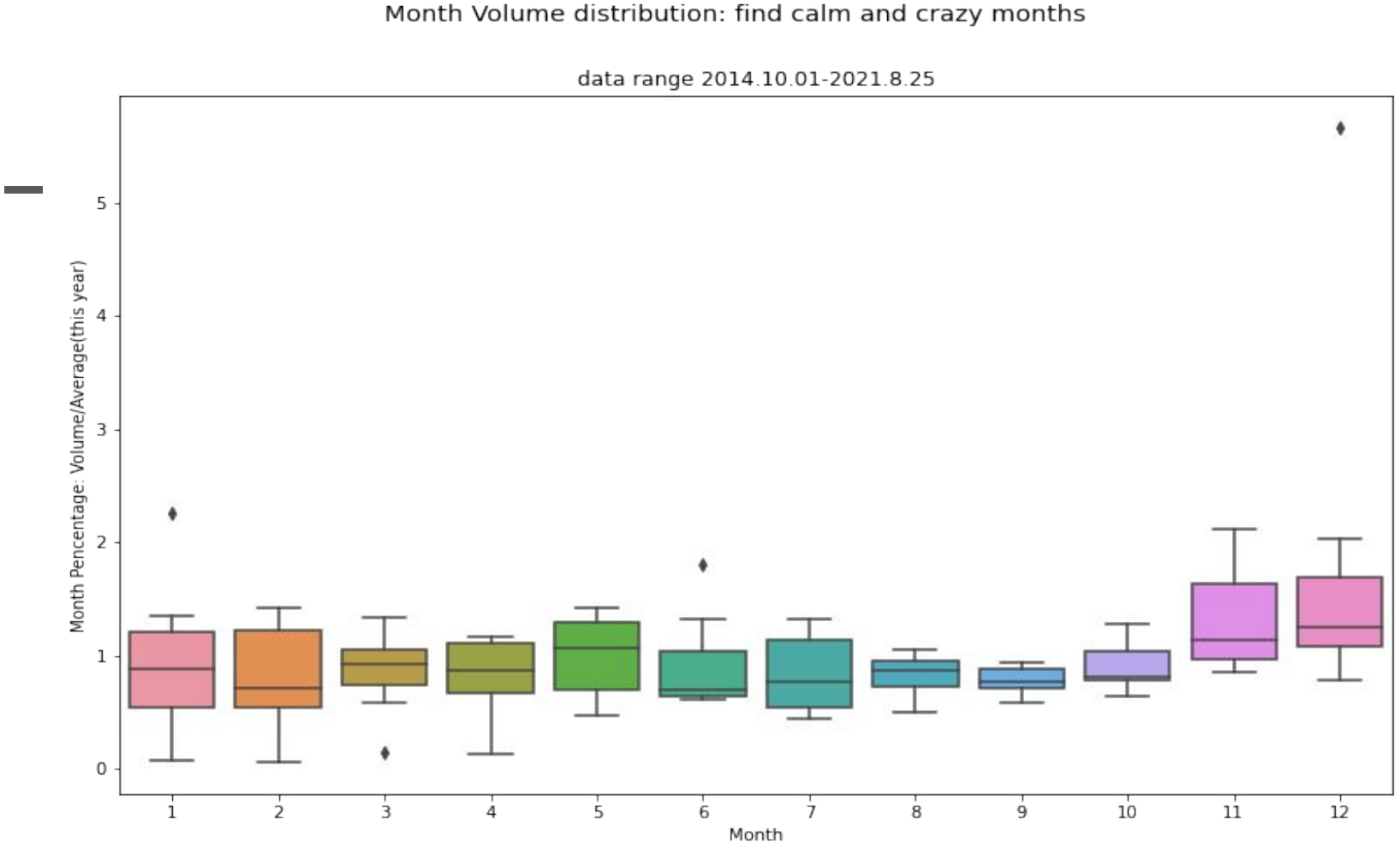

open 1 0.98 0.97 0.96 0.96 0.82 0.22 0.72
high 0.98 1 0.99 0.99 0.99 0.85 0.26 0.72
low 0.97 0.99 1 0.99 0.99 0.83 0.16 0.74
close 0.96 0.99 0.99 1 1 0.82 0.2 0.73
adj_close 0.96 0.99 0.99 1 1 0.82 0.2 0.73
volume 0.82 0.85 0.83 0.82 0.82 1 0.23 0.82
amplitude% 0.22 0.26 0.16 0.2 0.2 0.23 1 0.16
Year 0.72 0.72 0.74 0.73 0.73 0.82 0.16 1
open
high
low
close
adj_close
volume
amplitude%
Year
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2


Boxplot grouped by Year
60000
50000
40000
30000
20000
10000
0
dose
2014
2015
2016
2017
2018
2019
2020
2021
Year


Volume Summary against Month
data range 2014.10.01-2021.8.25
1e12
Volume_Sum: Trillion USD
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
2
4
6
8
10
12
Month

Month relative percentage: against yearly month average value

month year	1	2	3	4	5	6	7	8	9	10	11	12
2014	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	1.280341	0.935425	0.784234
2015	1.065469	0.689928	0.929995	0.651937	0.550883	0.610670	0.969551	0.877725	0.585307	0.924353	2.111544	2.032640
2016	0.759676	0.715931	0.890165	0.691219	0.852610	1.812381	1.318041	1.025002	0.764835	0.807206	1.005752	1.357182
2017	0.070972	0.059090	0.150009	0.134625	0.472715	0.613670	0.450062	0.876780	0.768513	0.800362	1.941739	5.661464
2018	2.256905	1.245535	1.050526	1.065698	1.071455	0.706024	0.766901	0.717294	0.703482	0.642167	0.858629	0.915383
2019	0.328828	0.391248	0.585500	0.875176	1.423027	1.328108	1.329211	1.049322	0.944308	1.169624	1.330200	1.245447
2020	0.884644	1.206715	1.338514	1.165471	1.334289	0.675161	0.566146	0.734766	0.927150	0.775856	1.133867	1.257419
2021	1.355075	1.424999	1.056694	1.159333	1.242371	0.747743	0.514840	0.498946	NaN	NaN	NaN	NaN


Month Volume distribution: find calm and crazy months
data range 2014.10.01-2021.8.25
Month Pencentage: Volume/Average(this year)
0
1
2
3
4
5
1
2
3
4
5
6
7
8
9
10
11
12
Month

– Challenges

Calculate monthly mean over years with daily data

— Conclusion

Long term holding **SAFE**

Short term speculation **RISKY**