SCALPING STRATEGY

BITCOIN PERPETUAL BINANCE FUTURES 1M

ML

PAIR: BITCOIN/USDT

TICKER: BTCUSDTPERP

EXCHANGE: BINANCE FUTURES

TIMEFRAME: 1 Minute

MARGIN: $ 200 / $ 400

LEVERAGE: x50 / x25

ORDER SIZE: $ 10.000

STOPLOSS: -0,40% / -0,50%   - I move it to breakeven when profit reaches 0.30%

TAKEPROFIT: Traling stop that starts when a 0.40% is reached

FEES: 0.036% (x 2)

CAPITAL: $10.000

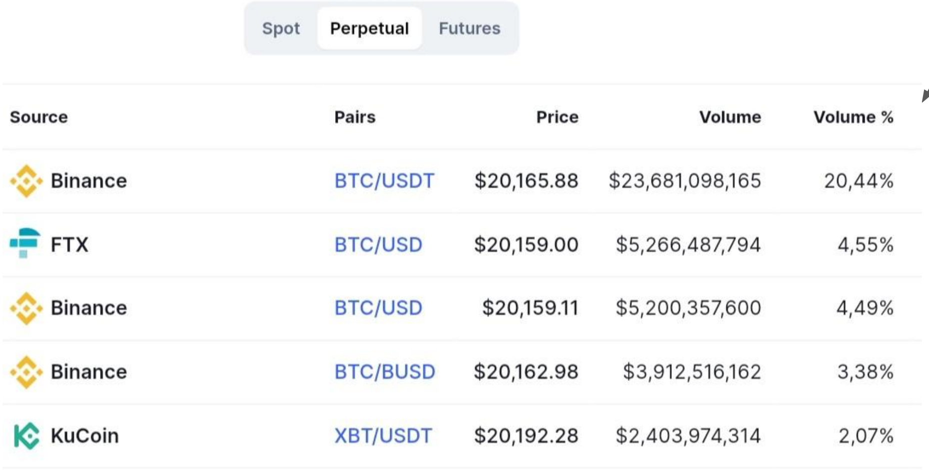
RISK: 0,40% / 0,50% of capital

RISK-REWARD RATIO: 1 : 1,5

NOTES: Don’t operate during the various macroeconomic reports (FOMC, CPI, INTEREST RATES, ETC.)

It's a very simple but also highly risky strategy based on Bitcoin.
I trade at low timeframes and last year I noticed this feature about price action and volumes.

I’ve detected this on the pair “btcusdtperp”, on Binancefutures which has 20% / 30% of the total trading volume on btc perpetuals derivatives.



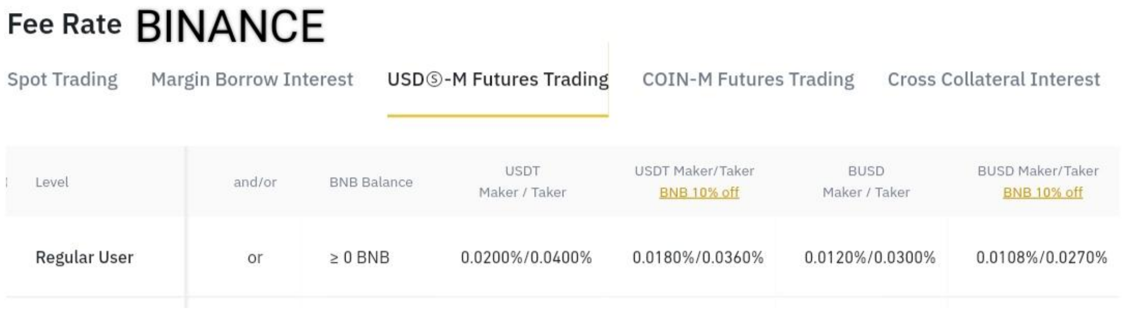
Source	Pairs	Price	Volume	Volume %
Binance	BTC/USDT	$20,165.88	$23,681,098,165	20,44%
FTX	BTC/USD	$20,159.00	$5,266,487,794	4,55%
Binance	BTC/USD	$20,159.11	$5,200,357,600	4,49%
Binance	BTC/BUSD	$20,162.98	$3,912,516,162	3,38%
KuCoin	XBT/USDT	$20,192.28	$2,403,974,314	2,07%

*CoinMarketCap

It’s important to use this strategy only on Binance because in addition to a greater trading volume, not having a spread, there is also a question of price difference between the various exchanges that would create operational confusion.

It is also the exchange with the lowest fees.
I enter a market order as soon as I have the entry signal, so the fee that is applied to me is as a market taker, as I remove liquidity from the book.
0.04% per market taker with a 0.01% discount if you pay with BNB.
So a **0.036%**
(then 0.072% for every trade)
against the
0.07%(0.14%)
0.06%(0.12%)
of FTX and Bybit fees.

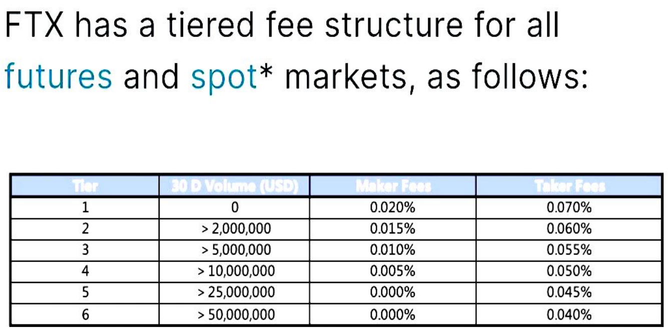
Being a scalping strategy these differences are essential for performance.



Fee Rate BINANCE

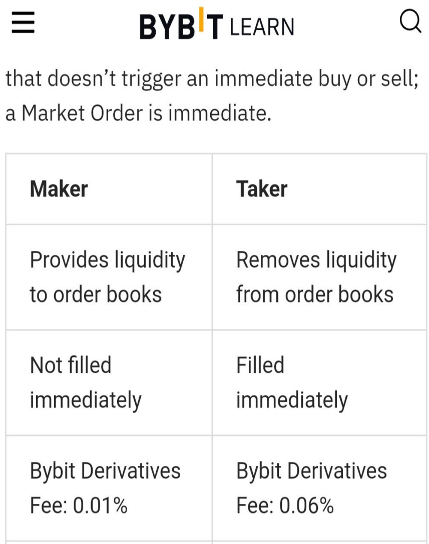
Spot Trading | Margin Borrow Interest | USDⓈ-M Futures Trading | COIN-M Futures Trading | Cross Collateral Interest

Level	and/or	BNB Balance	USDT Maker / Taker	USDT Maker/Taker BNB 10% off	BUSD Maker / Taker	BUSD Maker/Taker BNB 10% off
Regular User	or	≥ 0 BNB	0.0200%/0.0400%	0.0180%/0.0360%	0.0120%/0.0300%	0.0108%/0.0270%



FTX has a tiered fee structure for all futures and spot* markets, as follows:

Tier	30 D Volume (USD)	Maker Fees	Taker Fees
1	0	0.020%	0.070%
2	> 2,000,000	0.015%	0.060%
3	> 5,000,000	0.010%	0.055%
4	> 10,000,000	0.005%	0.050%
5	> 25,000,000	0.000%	0.045%
6	> 50,000,000	0.000%	0.040%



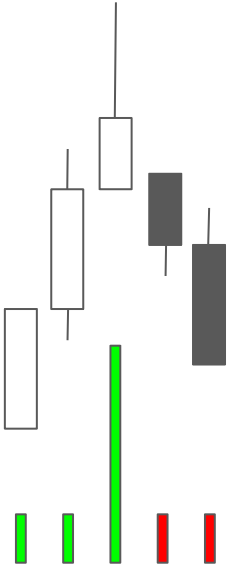
BYBIT LEARN

that doesn't trigger an immediate buy or sell; a Market Order is immediate.

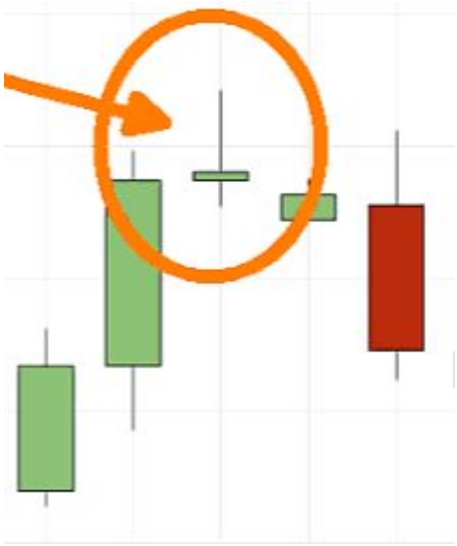
Maker	Taker
Provides liquidity to order books	Removes liquidity from order books
Not filled immediately	Filled immediately
Bybit Derivatives Fee: 0.01%	Bybit Derivatives Fee: 0.06%

Basically I look for large **volume** peaks (over 2/3 thousand bitcoin on Binance futures, which at the momentary price correspond to $40 / $ 60 millions) related to large **spikes**. Initially I was looking for spikes greater than 0.30%, but also of 0.10 % / 0.20% could be fine.

Quite simply, when there is a sudden jump in volumes and the 1m candle closes with a strong spike and with a not too large body, I immediately enter with a market order, long or short (as in the image below).



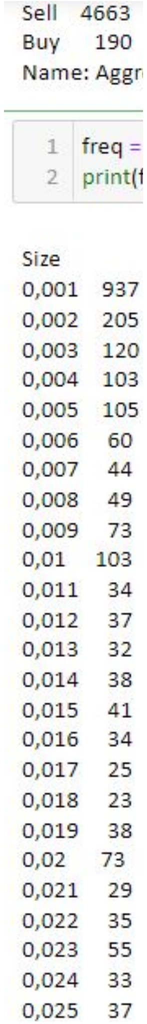
It might look like a technical analysis pattern: the gravestone doji candle.



But this pattern does not make use of volumes as well.

I believe it is basically an **imbalance** of the orderbook that follows an instantaneous price reaction.
Using some software to read liquidity on low timeframe markets, such as “Bookmap” or "Quantower", I noticed, with the 1 second timeframe and with the orderflows, how these orders are sometimes composed:
many orders concentrated in 3/4 seconds that scale quickly the orderbook, creating an imbalance, of supply or demand, and causing the reaction in the opposite direction.
This usually happens in the last few seconds before the candle closes.

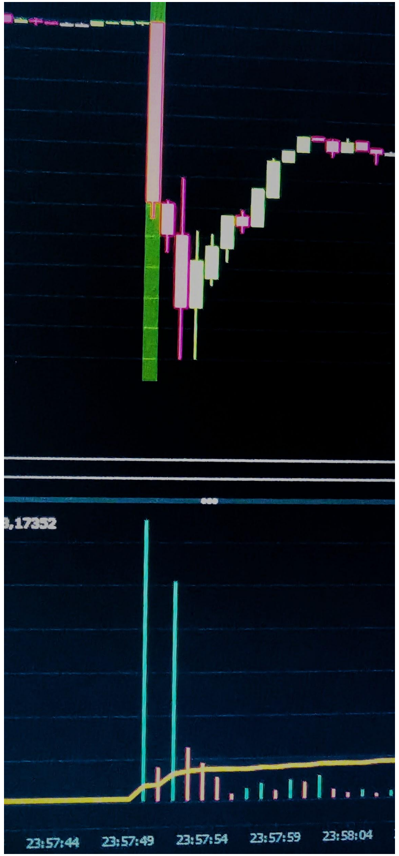
Here I extracted the csv and analyzed in pandas a second of orders (in the reference 1 minute candle).
In one second there was a volume of about 1300 bitcoins, with 4853 orders (4663 sell) and a large frequency of small orders.



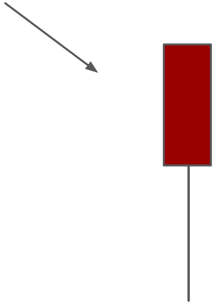
```
Sell    4663
Buy      190
Name: Aggr
```

```
freq =
print(f
```

```
Size
0,001    937
0,002    205
0,003    120
0,004    103
0,005    105
0,006     60
0,007     44
0,008     49
0,009     73
0,01     103
0,011     34
0,012     37
0,013     32
0,014     38
0,015     41
0,016     34
0,017     25
0,018     23
0,019     38
0,02     73
0,021     29
0,022     35
0,023     55
0,024     33
0,025     37
```



In the same example we see the last eleven seconds of the 1 min candle.
Big downside break in 3 seconds (the first candle selected is the one seen on the previous page) and reabsorption in 8 seconds.
This causes the 1 min candle to close with a big spike and high volumes.



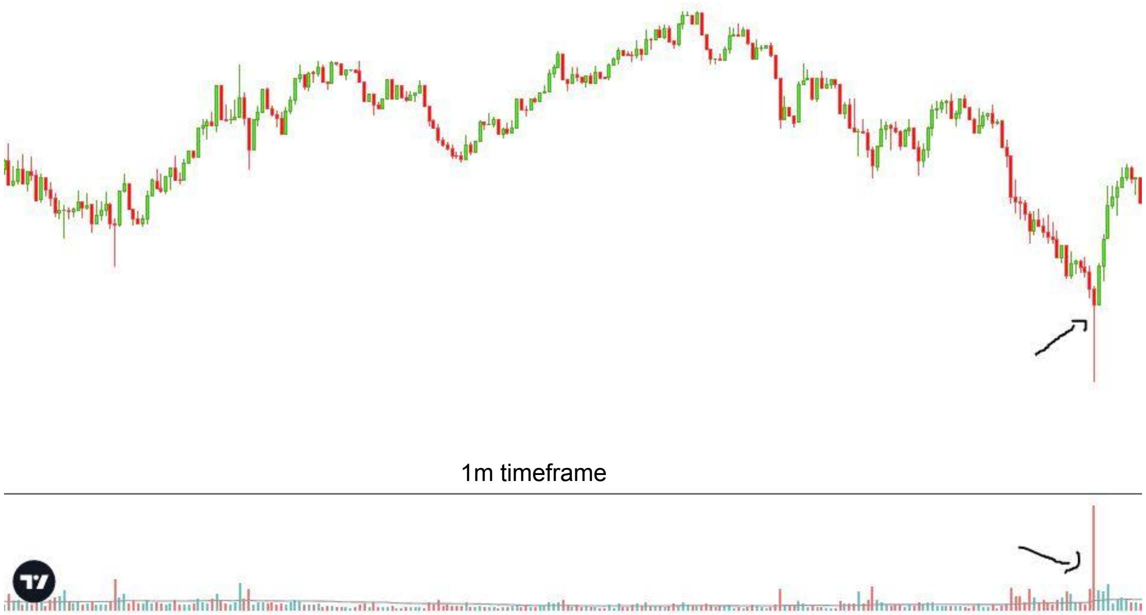
They could be orderblocks or market manipulations.

This strategy performs well only when the price **lateralizes**, or in any case when it does not have a strong directionality or trend.

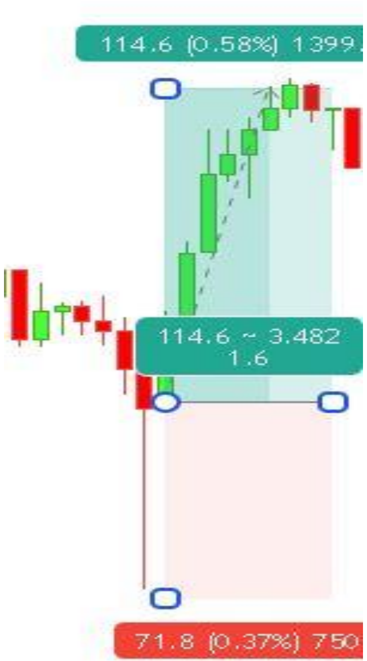
And even more when it **breaks** a previous low or high (or reference).

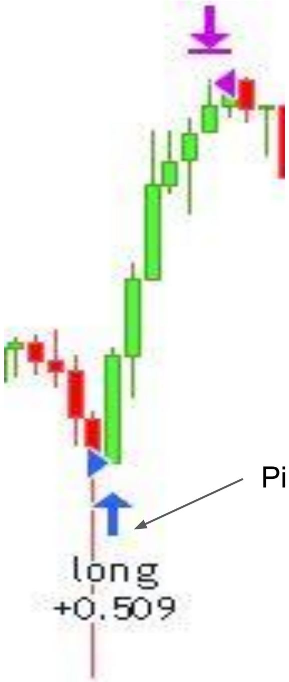
The potential reaction is between 0.20% and 1.00%

If the position goes in our favor I prefer to move the stop loss to breakeven early, because then there is a time decay, and it is invalidated.



In this case the reaction was of 0.60% with a takeprofit of 0.58%





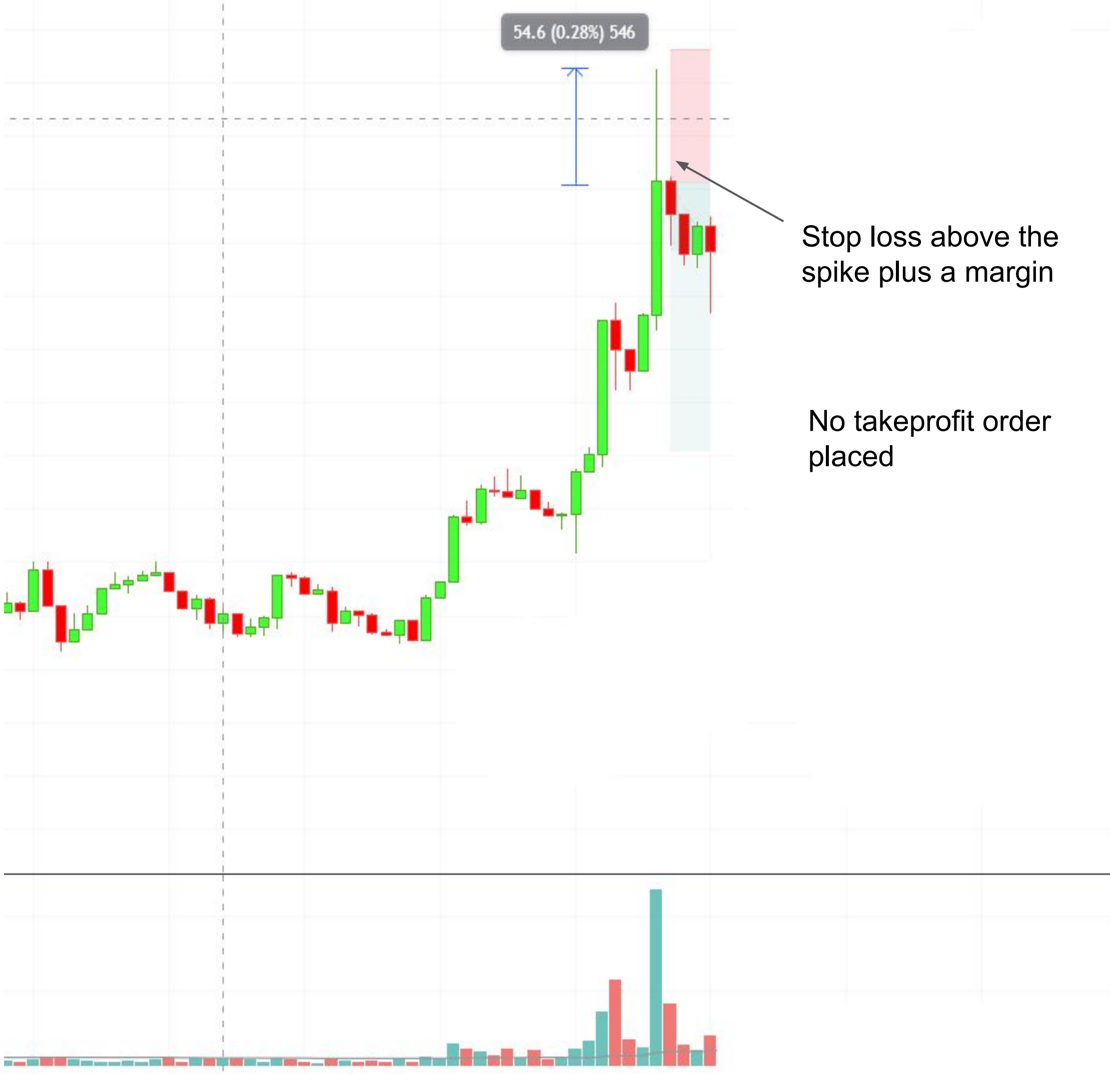
Pinescript demo

Being very short-term trading, the order value must be at least **$10000**.

The **stop loss** should be placed above the previous reference spike plus a nice safety margin.

It is approx -0.40 / -0.50%, which is correspond to 0.50% of the hypothetical capital of $10000.

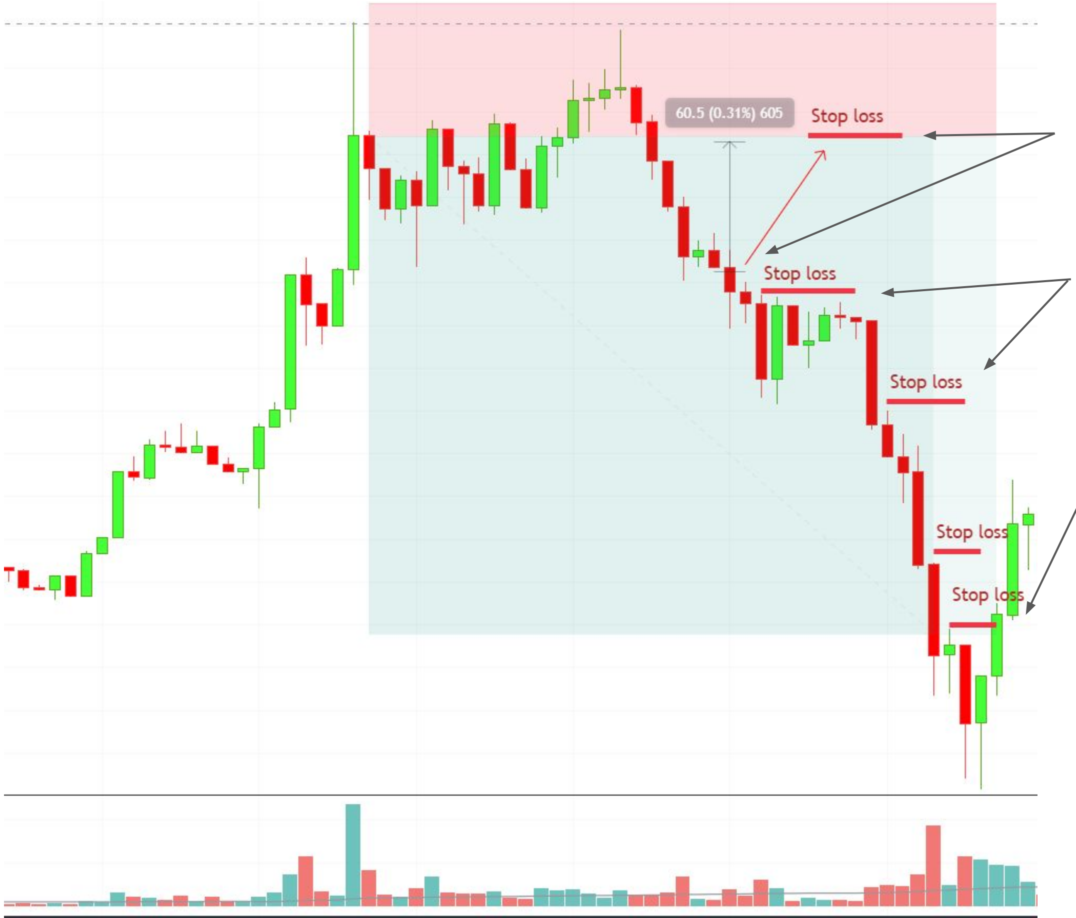
It’s a low risk rate, but being high risk strategy that opens hundreds of trades is fine, could also be lowered to 0.25%.



Stop loss above the spike plus a margin

No takeprofit order placed

Operating manually, as already mentioned, I enter the stoploss at **breakeven** when the price reaches 0.30%, then I move it with a manual trailing stop above/below the previous highs/lows.

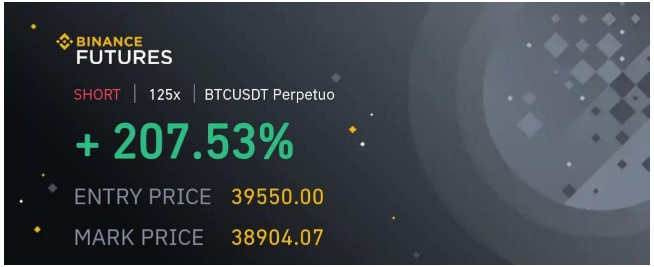


When it reaches 0.30% with this close I move the stoploss at breakeven.

Then I move it gradually to the previous highs, so that if the price goes back against I go into profit.

As in this case.

As for the **leverage** to use depends on your capital.
I started in a very risky way with a capital of $1000 and margin per position of $100 with x100 leverage. I made good performances, especially during the last bullrun with high volumes, but in this down period with low daily volumes it is performing worse. I also lowered the leverage to 75, then to 50 and finally to 25, therefore with a margin of $133, $200 and $400.



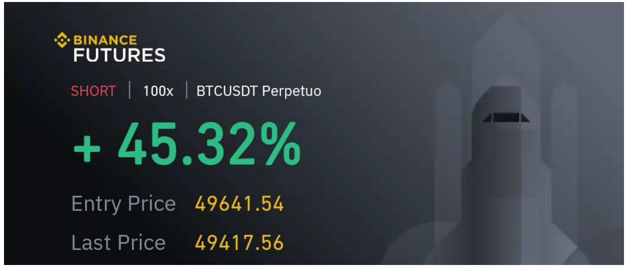
BINANCE FUTURES

SHORT | 125x | BTCUSDT Perpetuo

+ 207.53%

ENTRY PRICE 39550.00

MARK PRICE 38904.07



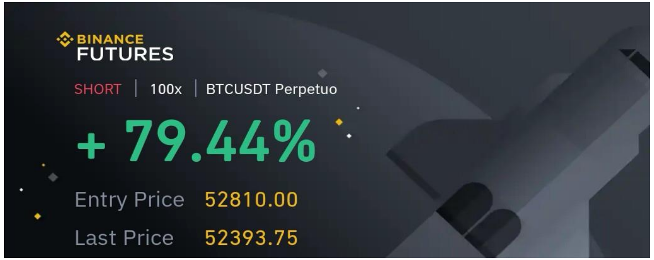
BINANCE FUTURES

SHORT | 100x | BTCUSDT Perpetuo

+ 45.32%

Entry Price 49641.54

Last Price 49417.56



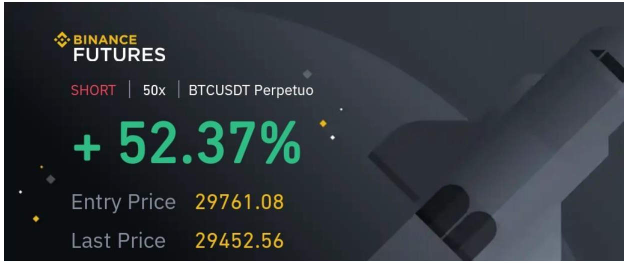
BINANCE FUTURES

SHORT | 100x | BTCUSDT Perpetuo

+ 79.44%

Entry Price 52810.00

Last Price 52393.75



BINANCE FUTURES

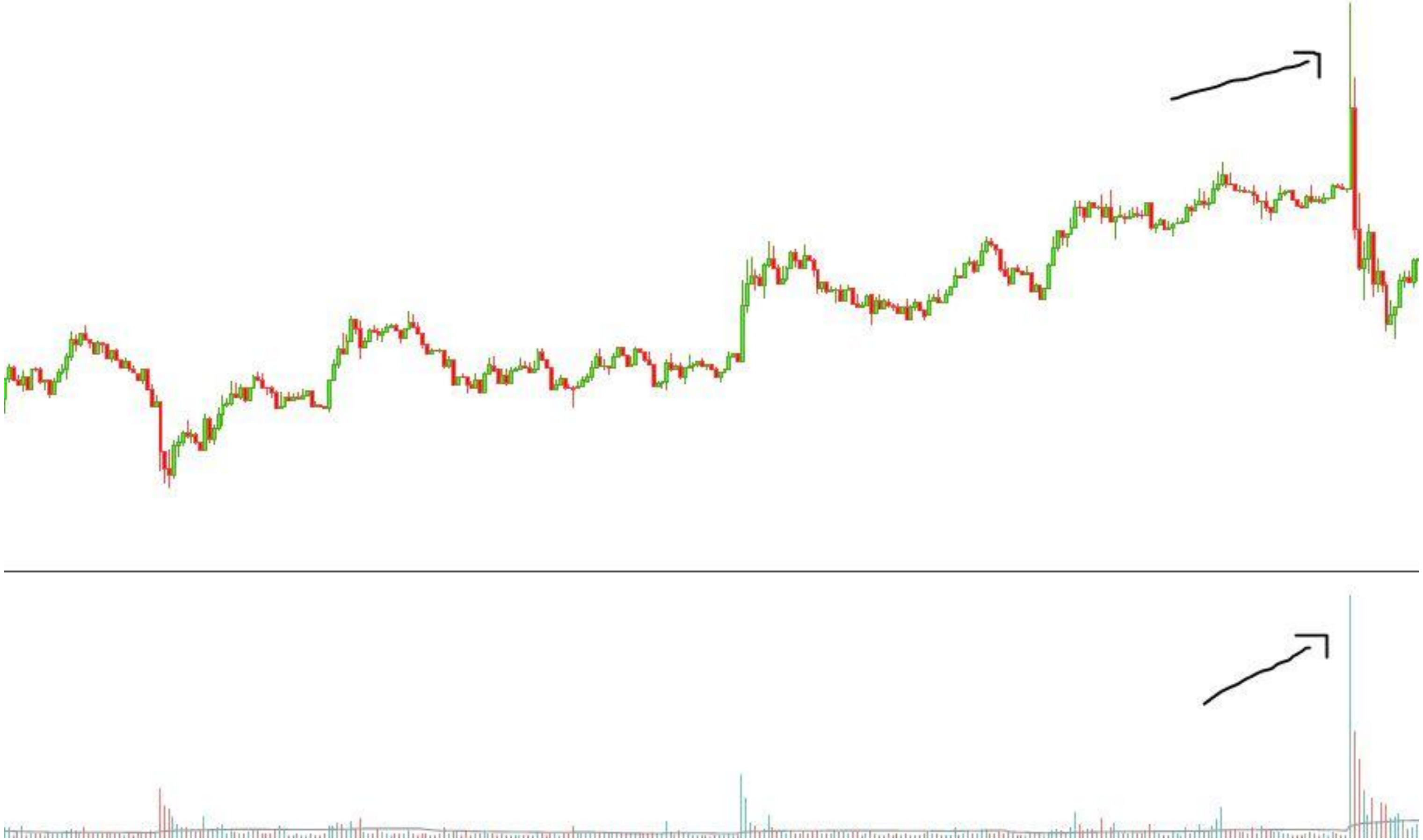
SHORT | 50x | BTCUSDT Perpetuo

+ 52.37%

Entry Price 29761.08

Last Price 29452.56

Short operation

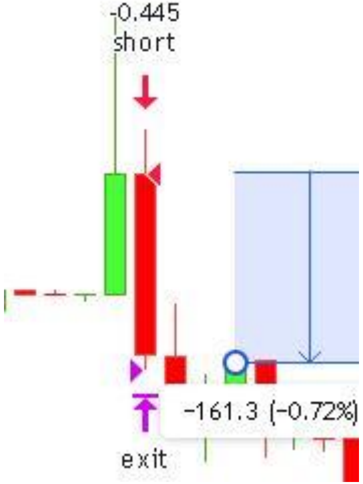


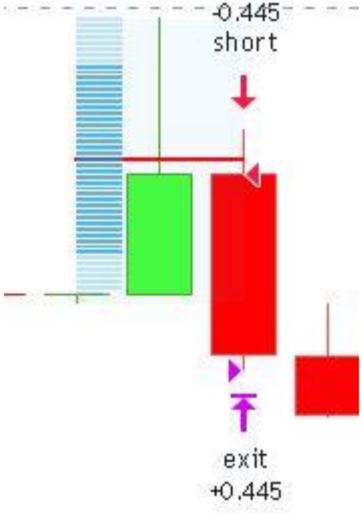
Here the reaction was 1.20%

Gross profit: $ 72,00

Net profit: $ 64,80*

*Pinescript demo





Initially to filter the operations, I also used the MACD and the RSI (looking for the divergences), but now the only indicator/oscillator I use is the **ATR**.

Basically to avoid entry in times of high volatility. I’m setting it from 50 to 100.

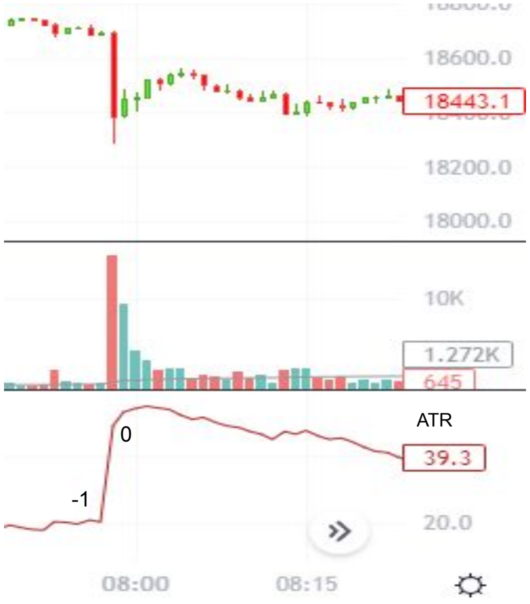
Note that it’s not a leading indicator.

I thought it would be more efficient to set it not as a value but as a percentage change compared to the previous value(or the last two).

Example:

If current ATR (0) >= 100% previous ATR (-1) don’t open position.

As in this case

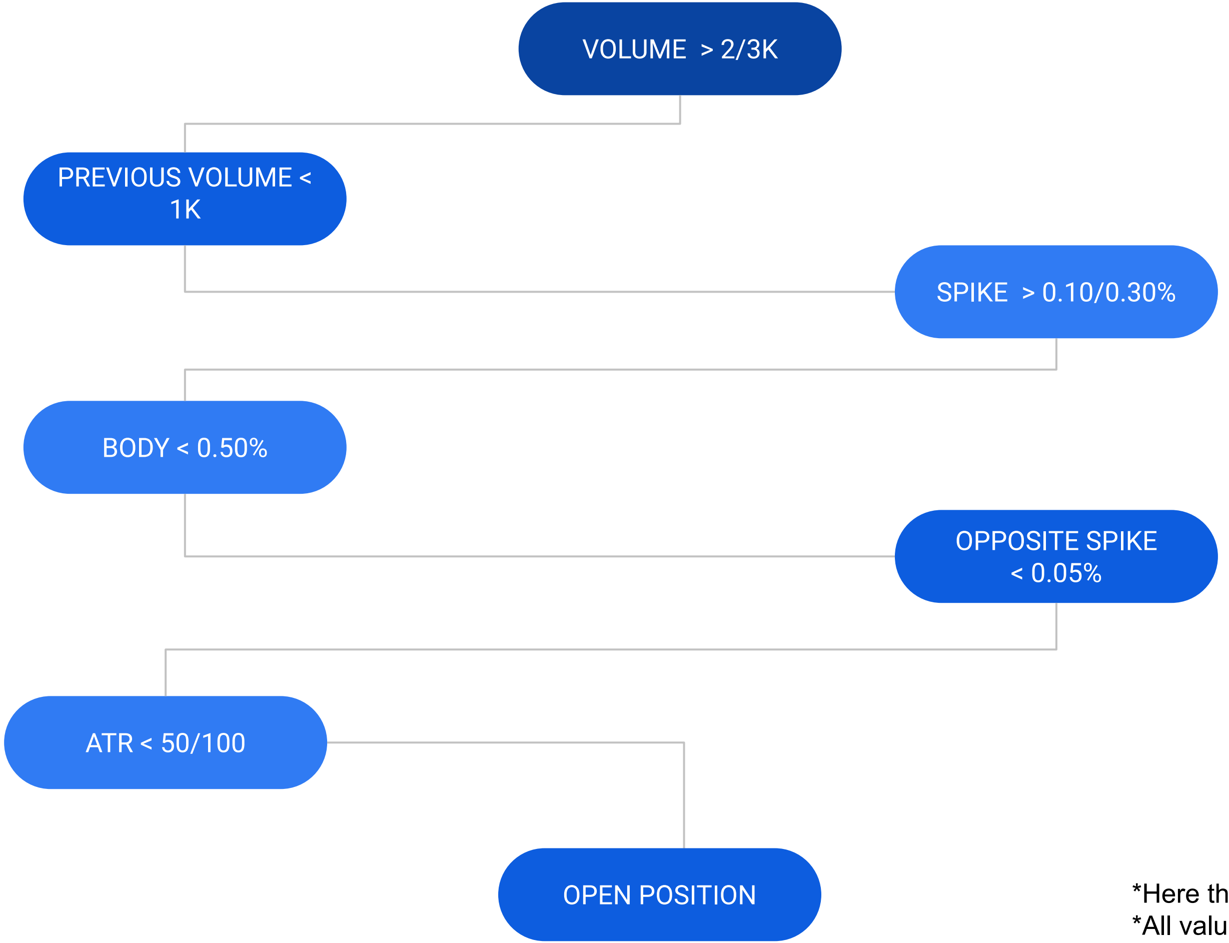


At the moment I’ve set it up in this way in python

```
def atr():
    df = pd.concat([dati.Range, dati.HC, dati.LC] , axis = 1)
    TrueRange = np.max(df, axis = 1)
    atr = TrueRange.rolling(14).mean()
    return atr
```

Set it to 14 periods as default.

FLOWCHART



*Here the spikes have absolute value
*All values are approximate

Main part of the Python code using Pandas and Numpy

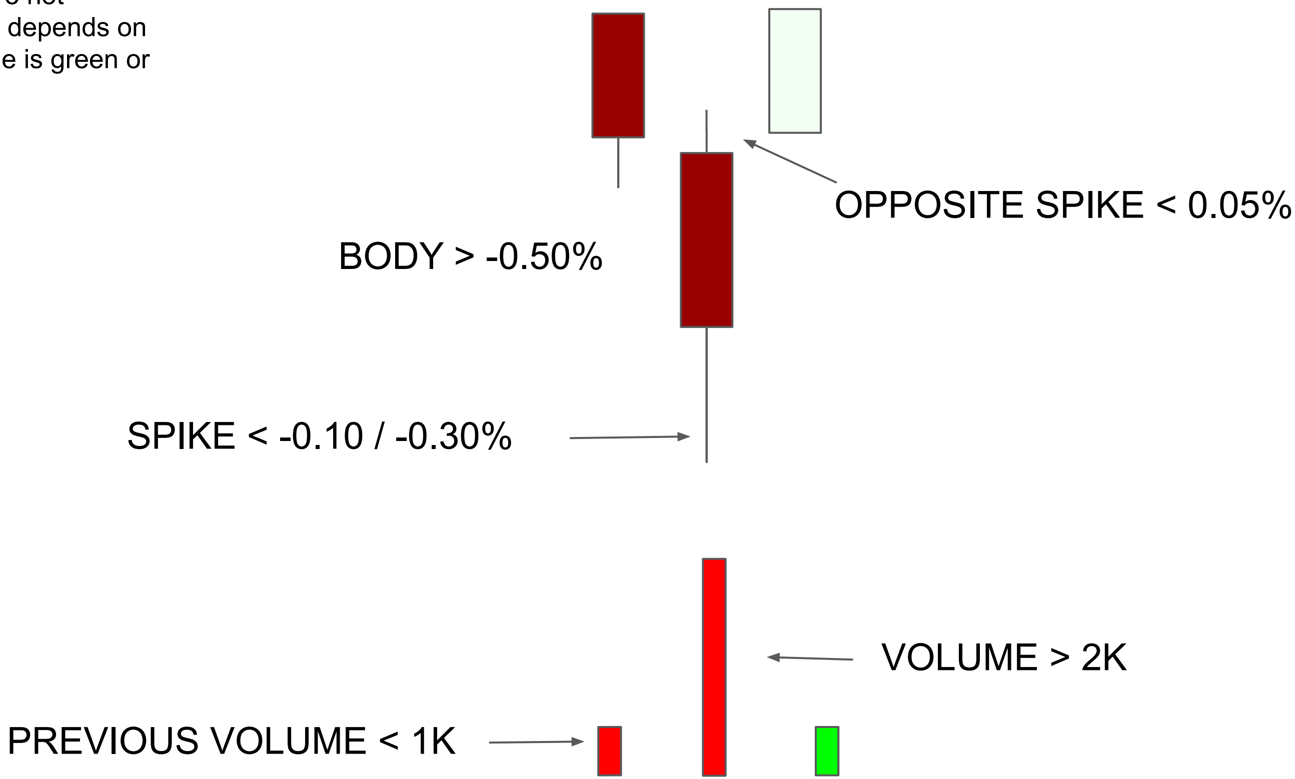
```
dati["SpikeUp_TF"] = np.where((dati.SpikeUp.shift(1) > SpikeUp_threshold) & (dati.SpikeDown.shift(1) > -0.03) &
                             (dati.SpikeUp.shift(1) < 0.49), 1,0)
dati["SpikeDown_TF"] = np.where((dati.SpikeDown.shift(1) < SpikeDown_threshold) & (dati.SpikeUp.shift(1) < 0.03) &
                             (dati.SpikeUp.shift(1) > - 0.49), 1,0)
dati["Volume_TF"] = np.where((dati.VolumeBTC.shift(1) > Volume_threshold), 1,0)

conditionlist = [
((dati["Volume_TF"] == 1) & (dati["SpikeUp_TF"] == 1) & (dati["BodyPerc"] <= 0.29) & (dati["BodyPerc"] >= -0.5) &
(dati["atr"] < SogliaATR)) ,
((dati["Volume_TF"] == 1) & (dati["SpikeDown_TF"] == 1) & (dati["BodyPerc"] >= -0.29) & (dati["BodyPerc"] <= 0.5) &
(dati["atr"] < SogliaATR)) ,
((dati["Volume_TF"] == 1) & (dati["SpikeDown_TF"] == 1) & (dati["SpikeUp_TF"] == 1))]
#(dati["Volume_TF"] == 0)]
choicelist = [2, 1, 0]  # 0 = / , 1 = Long, 2 = Short
dati["Apri_Posizione"] = np.select(conditionlist, choicelist, default=0)

size = 10000
dati["qty"] = (size / dati.open).apply(lambda x: round(x,6))

dati["entry"] = np.where((dati.Apri_Posizione == 1) | (dati.Apri_Posizione == 2),dati.open, 0)
```

Main part of the Pinescript code (Version 5)

```
//condizioni di ingresso
shortcondition = body > 0
                 and spikeUpGreen > Soglia_spikeUpGreen
                 and V > Soglia_Volumi
                 and spikeDownGreen > Soglia_SpikeDown_Reverse_per_short
                 and V[1] < Soglia_Volumi_Precedente
                 and ta.atr(14) < Soglia_ATR
                 //and not longcondition

longcondition = body < 0
                 and spikeDownRed < Soglia_spikeDownRed
                 and V > Soglia_Volumi
                 and spikeUpRed < Soglia_SpikeUp_Reverse_per_long
                 and V [1] < Soglia_Volumi_Precedente
                 and ta.atr(14) < Soglia_ATR
                 and not shortcondition

//Ingresso a mercato
strategy.entry("long", strategy.long, qty = Qty_Posizione, when = longcondition)
strategy.entry("short", strategy.short, qty = Qty_Posizione, when = shortcondition)

//Trail_points: livello di attivazione trailing stop (profitto specificato in tick.)
trailpoints = input.int(defval = 1400, title = "Trailing points(livello attivazione")

lossLong = input.int(defval = 1250, title = "SL Long in ticks")
lossShort = input.int(defval = 1100, title = "SL Short in ticks")
strategy.exit("exit", "long", trail_points = trailpoints , trail_offset = trailoffset, loss = lossLong)
strategy.exit("exit", "short", trail_points = trailpoints, trail_offset = trailoffset, loss = lossShort)
```

LONG SETUP

* Spikes values are not absolute, the sign depends on whether the candle is green or red



OPPOSITE SPIKE < 0.05%

BODY > -0.50%

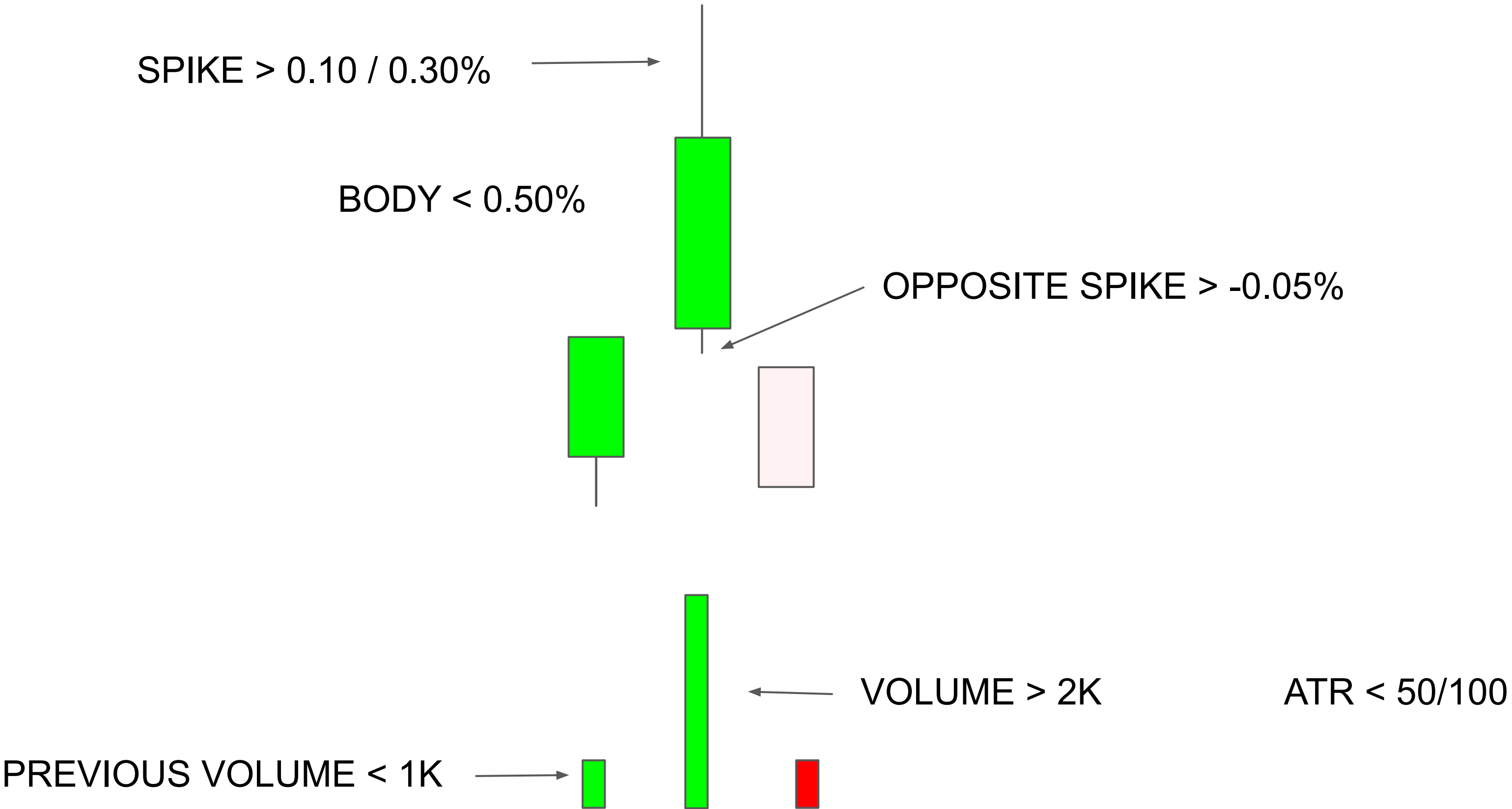
SPIKE < -0.10 / -0.30%

VOLUME > 2K

PREVIOUS VOLUME < 1K

ATR < 50/100

SHORT SETUP



SPIKE > 0.10 / 0.30%

BODY < 0.50%

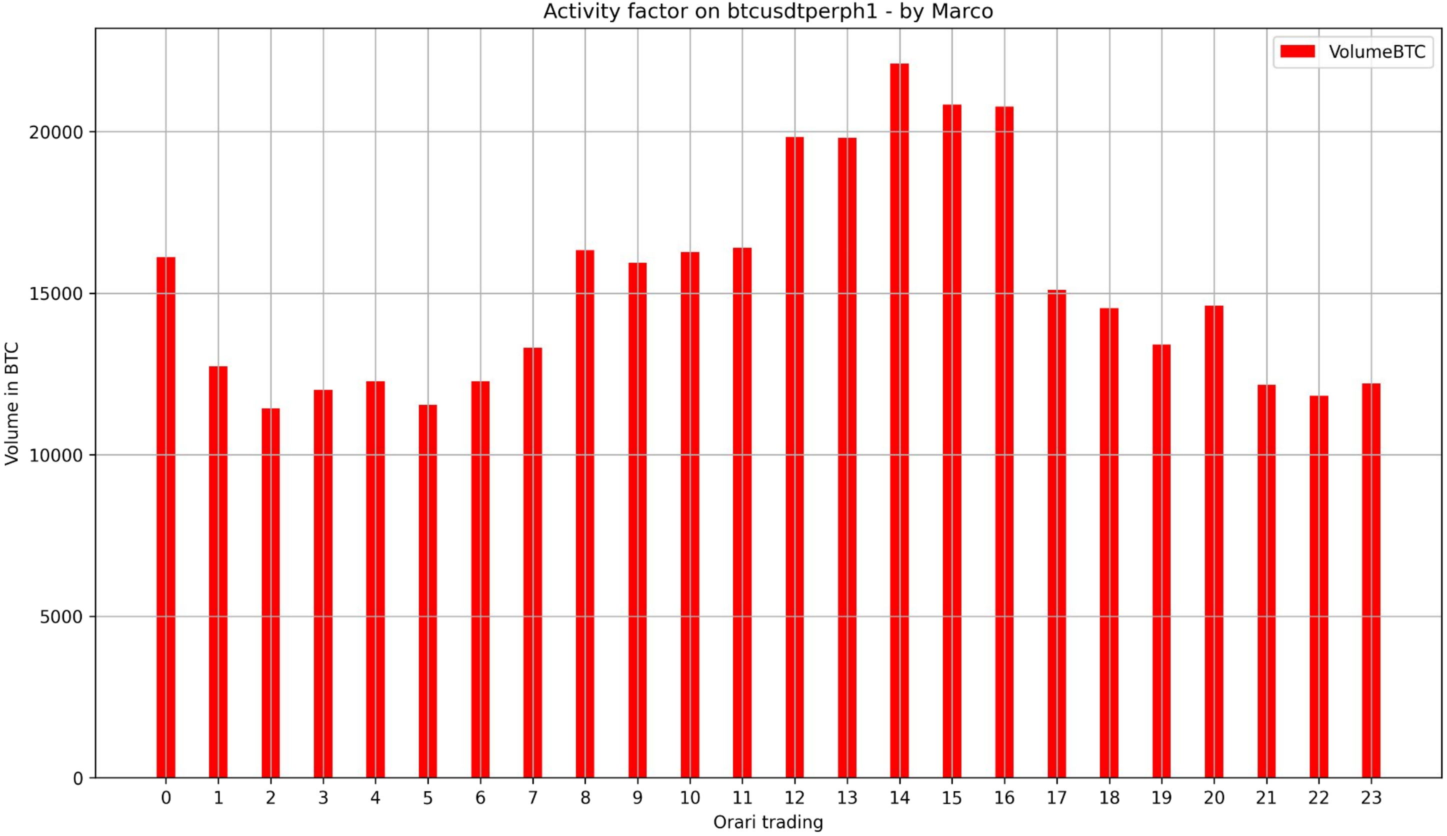
OPPOSITE SPIKE > -0.05%

VOLUME > 2K

ATR < 50/100

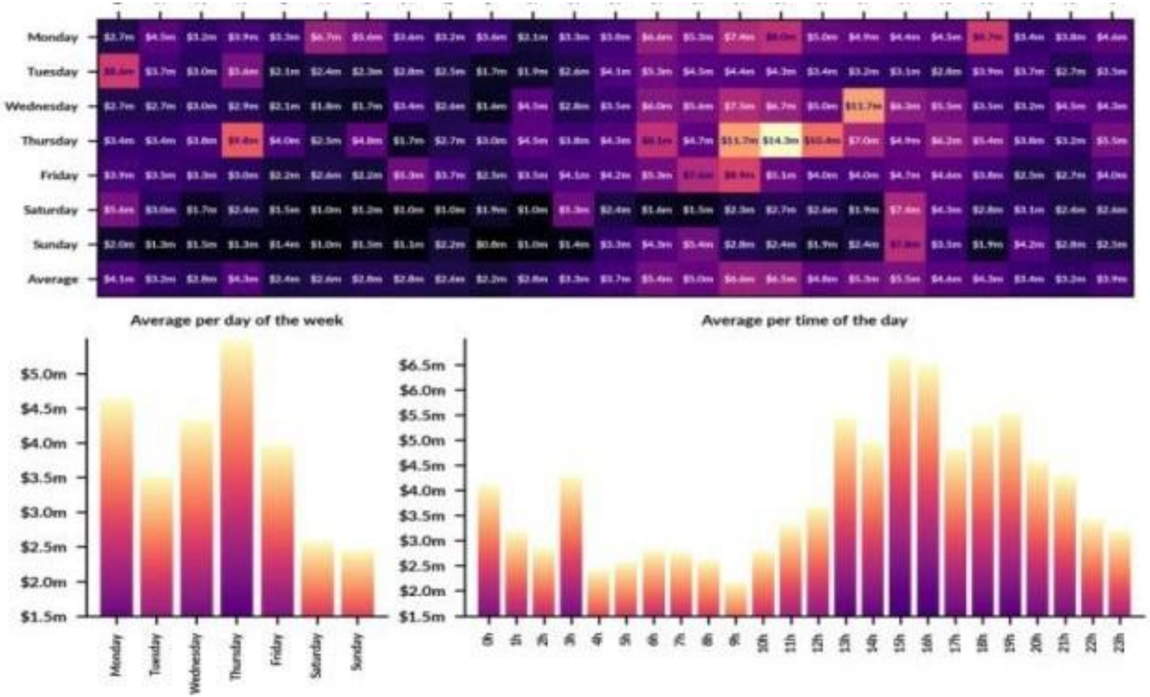
PREVIOUS VOLUME < 1K

The best **hours** to trade are those with more volumes, and analyzing the data almost correspond to the opening of Wall street, from **14:00** to **16:00** (**GMT**). Even at closing of daily candle (**00:00**) there are good volumes to operate.



From 2019 to today

Let’s see in the heatmap which are the days with the most volumetric intensity.



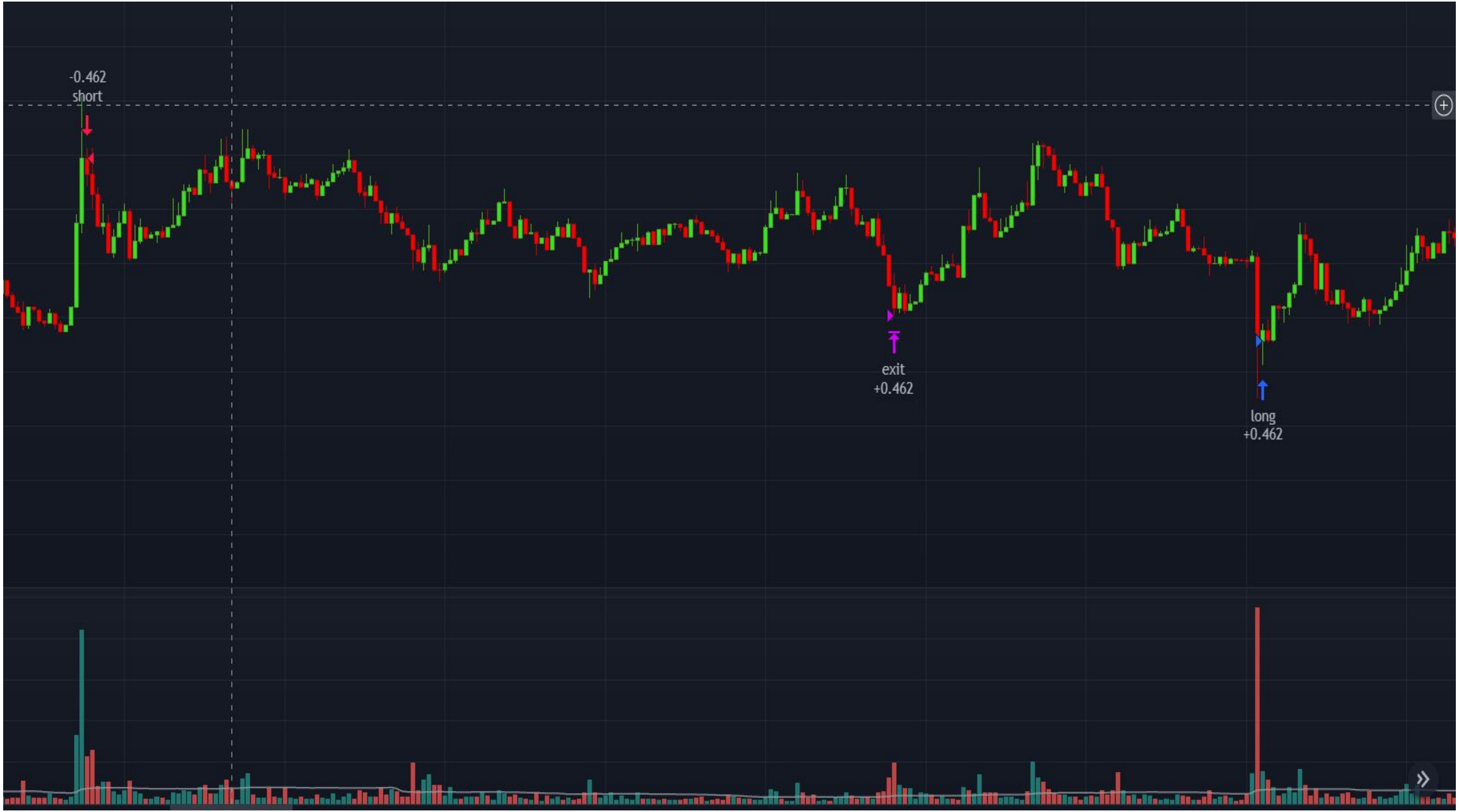
*Data from Skewe. July 2020

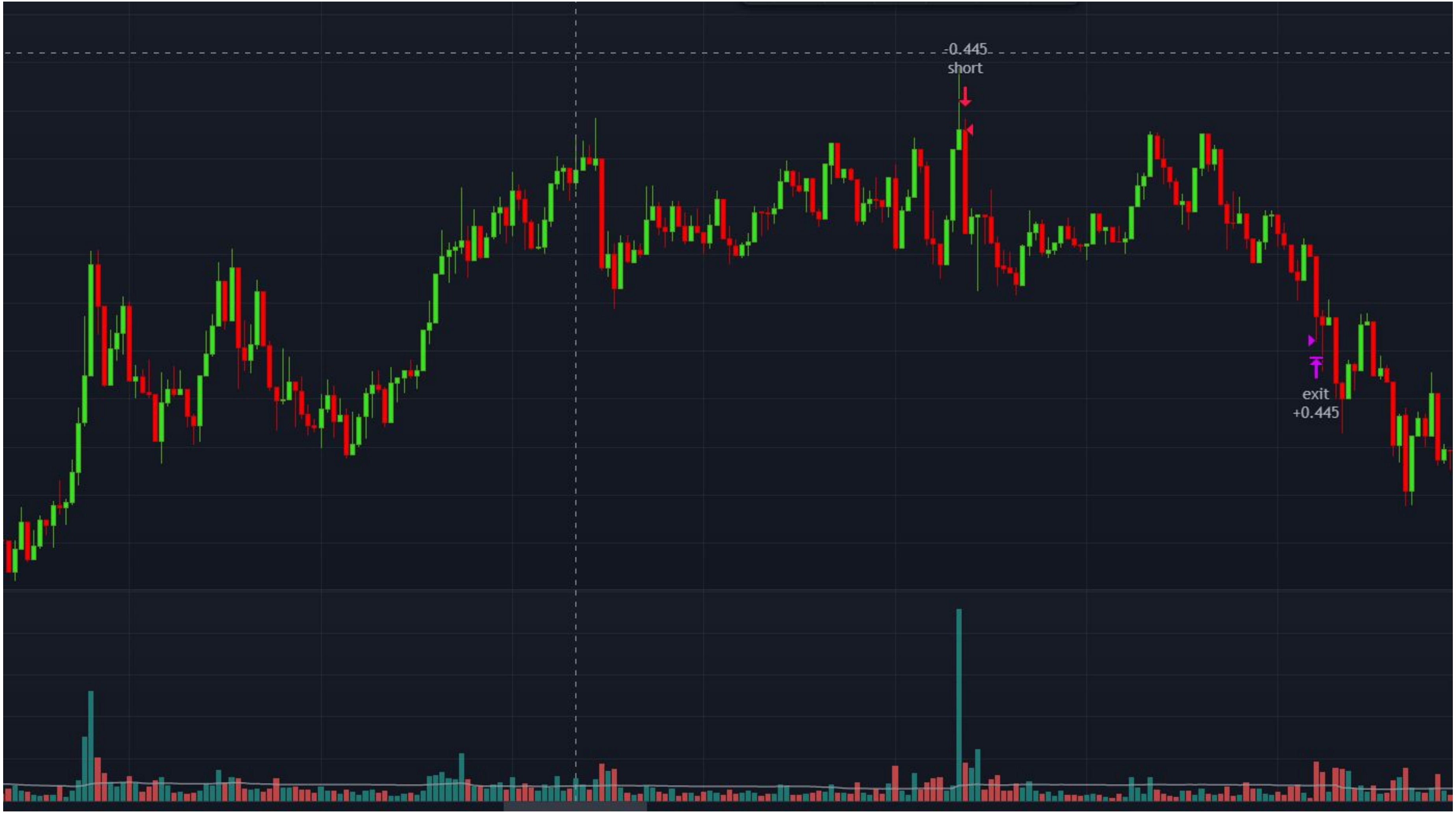
On Mondays and Thursdays we have weekly volume peaks.
In particular between 3:00pm and 4:00pm.

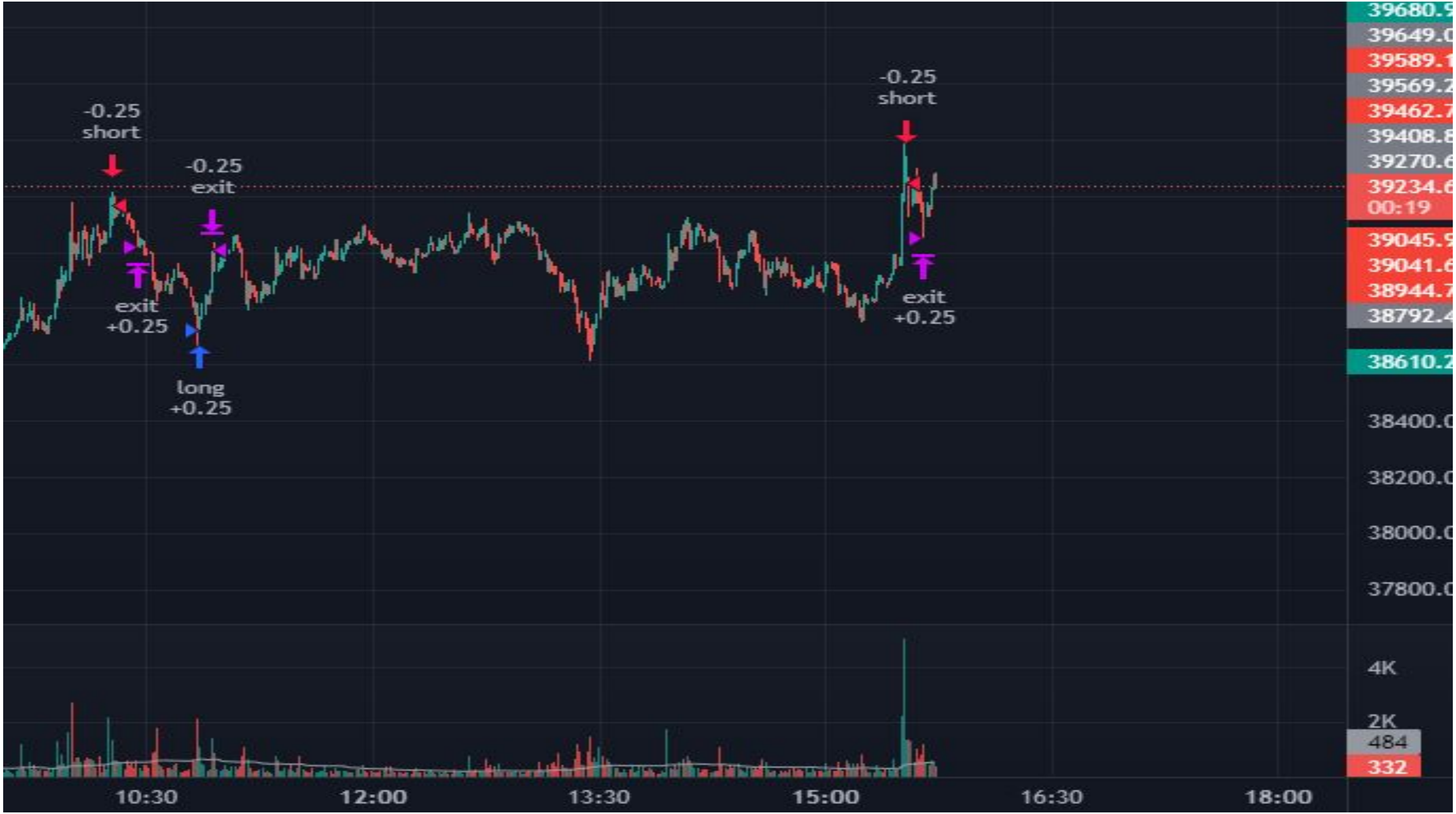
I leave on the following pages some examples of automated operations
written in Pinescript.

This script works in demo and I have not set in a stop loss that moves to break even.

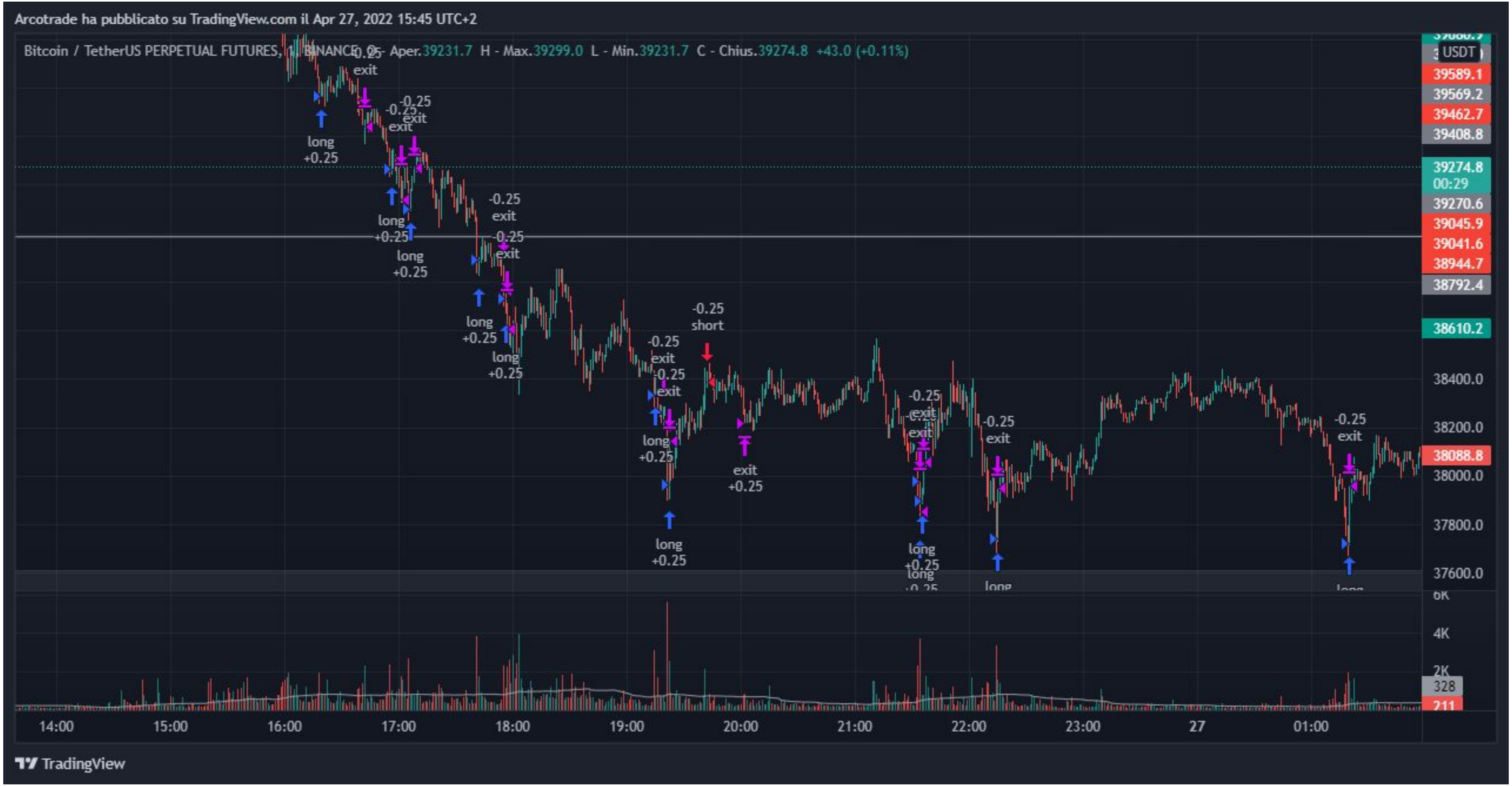
I have though an automatic trailing stop that is activated when 800/1000 ticks are reached.


-0.462
short
exit
+0.462
long
+0.462


-0.445
short
exit
+0.445


-0.25
short
-0.25
exit
exit
+0.25
long
+0.25
-0.25
short
exit
+0.25
39680.9
39649.0
39589.1
39569.2
39462.7
39408.8
39270.6
39234.6
00:19
39045.9
39041.6
38944.7
38792.4
38610.2
38400.0
38200.0
38000.0
37800.0
4K
2K
484
332
10:30
12:00
13:30
15:00
16:30
18:00

This is what I would like to avoid: overtrading in a trend moment

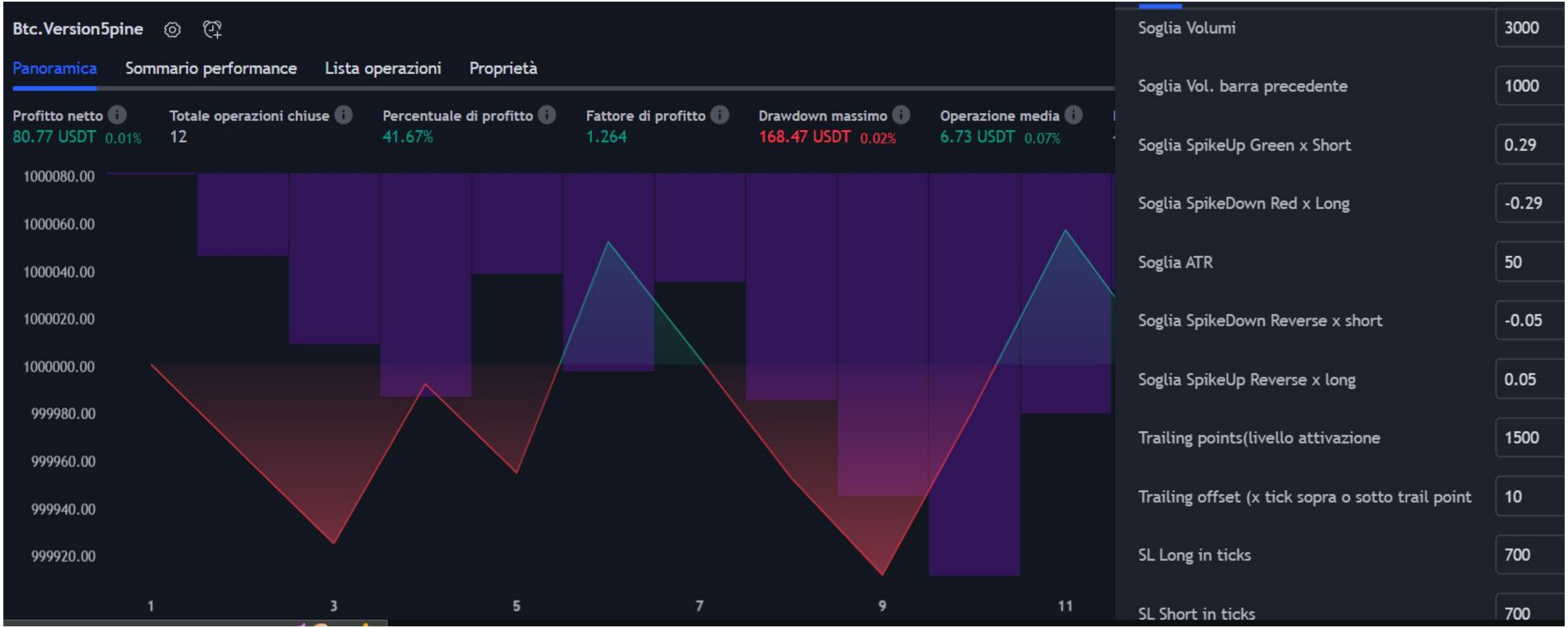


Arcotrade ha pubblicato su TradingView.com il Apr 27, 2022 15:45 UTC+2

Bitcoin / TetherUS PERPETUAL FUTURES, 1, BINANCE - Aper.39231.7 H - Max.39299.0 L - Min.39231.7 C - Chius.39274.8 +43.0 (+0.11%)

Below I leave some performances of the strategy. Unfortunately TradingView allows you to do backtesting (with 1m timeframe) only with the previous 7/8 days, so they are screenshots made from week to week, also lowering the entry thresholds, otherwise I wouldn’t be able to do so much backtesting.

Here last trading week with the appropriate thresholds, but with only 12 trades executed.



Btc.Version5pine

Panoramica | Sommario performance | Lista operazioni | Proprietà

Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media
80.77 USDT 0.01%	12	41.67%	1.264	168.47 USDT 0.02%	6.73 USDT 0.07%

Soglia Volumi	3000
Soglia Vol. barra precedente	1000
Soglia SpikeUp Green x Short	0.29
Soglia SpikeDown Red x Long	-0.29
Soglia ATR	50
Soglia SpikeDown Reverse x short	-0.05
Soglia SpikeUp Reverse x long	0.05
Trailing points(livello attivazione	1500
Trailing offset (x tick sopra o sotto trail point	10
SL Long in ticks	700
SL Short in ticks	700

Performance bar

Net Profit

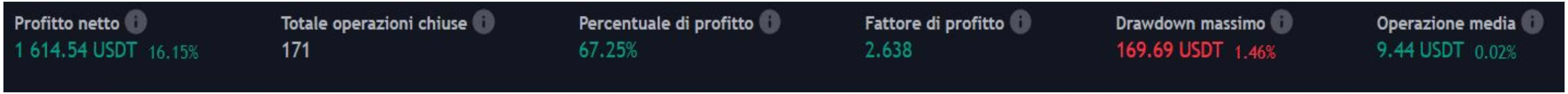
Totale closed operations

Percentage of profit

Profit factor

Max Drawdown

Average operation



Profitto netto
1 614.54 USDT 16.15%

Totale operazioni chiuse
171

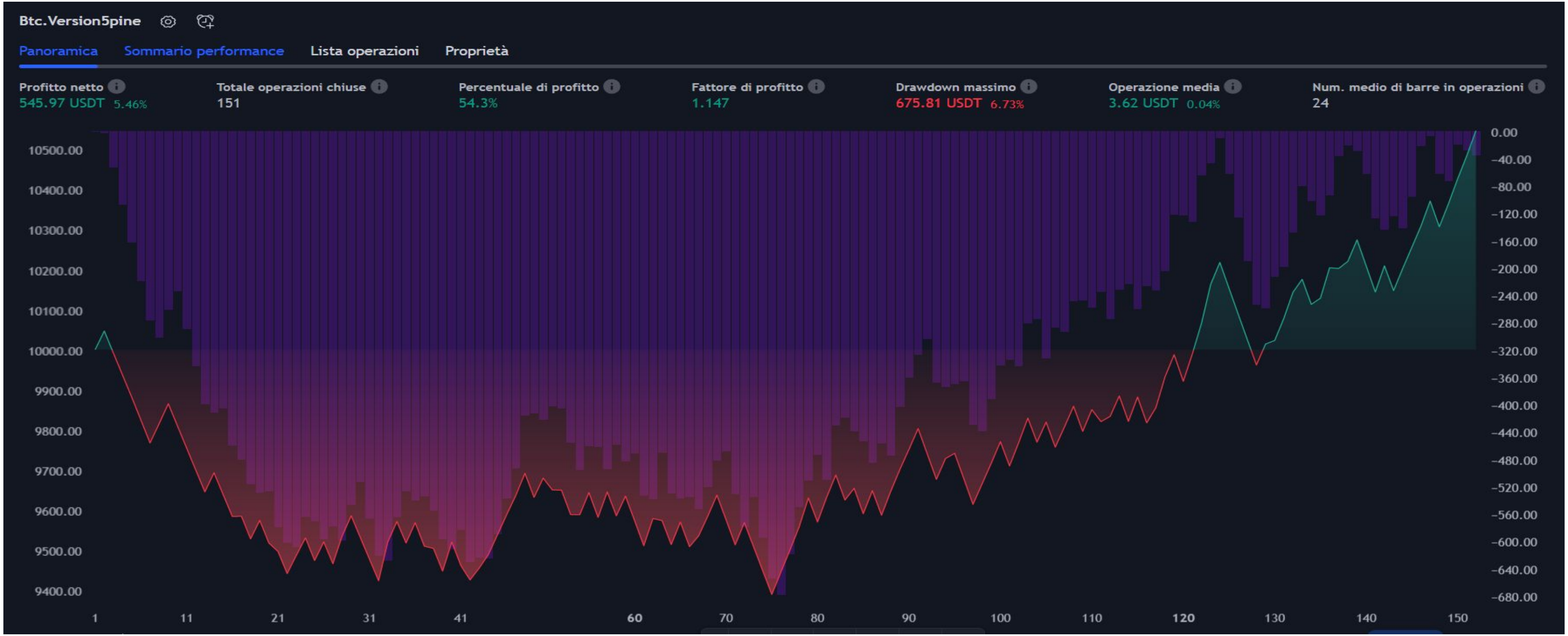
Percentuale di profitto
67.25%

Fattore di profitto
2.638

Drawdown massimo
169.69 USDT 1.46%

Operazione media
9.44 USDT 0.02%

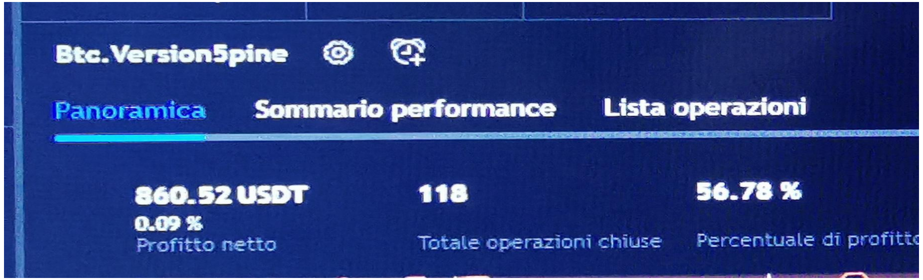
*All performances are net of fees



Btc.Version5pine

Panoramica | Sommario performance | Lista operazioni | Proprietà

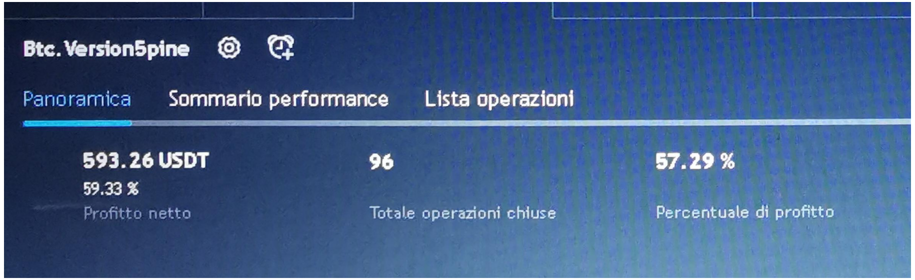
Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media	Num. medio di barre in operazioni
545.97 USDT 5.46%	151	54.3%	1.147	675.81 USDT 6.73%	3.62 USDT 0.04%	24



Btc.Version5pine

Panoramica | Sommario performance | Lista operazioni

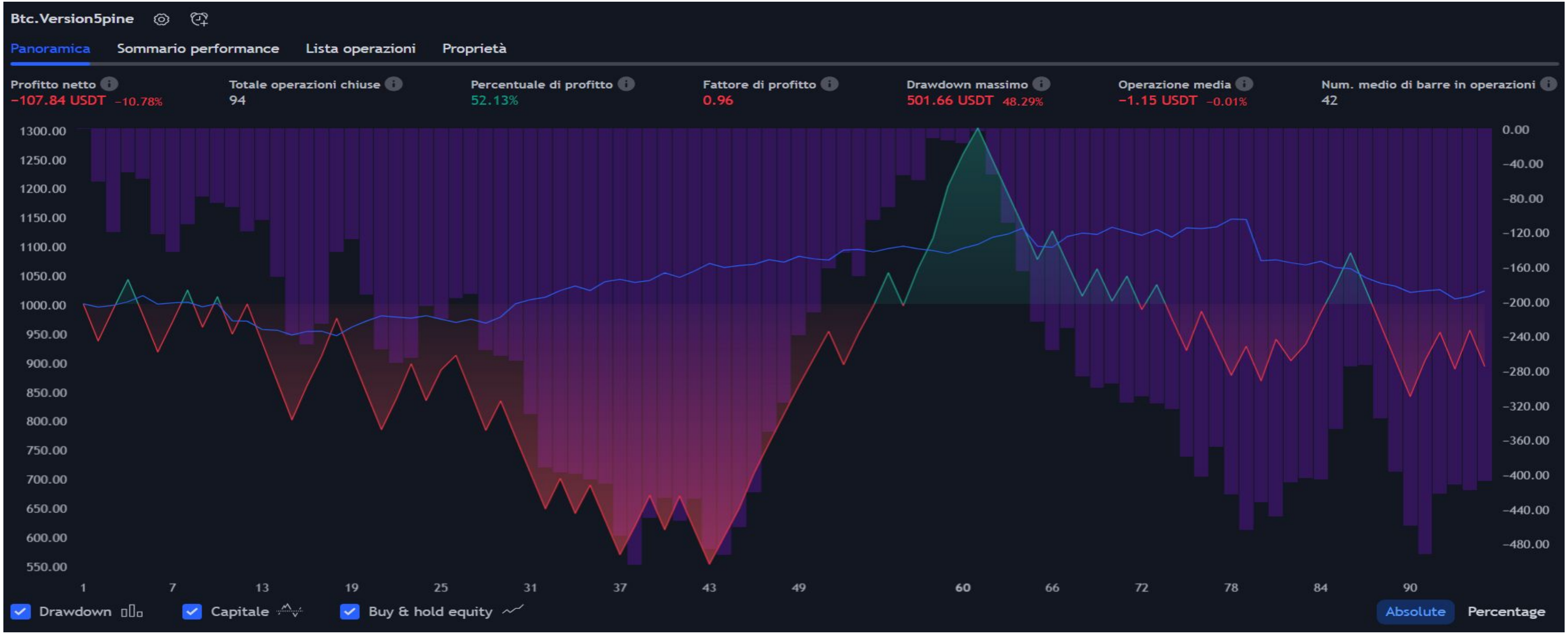
860.52 USDT 0.09 % Profitto netto	118 Totale operazioni chiuse	56.78 % Percentuale di profitto



Btc.Version5pine

Panoramica | Sommario performance | Lista operazioni

593.26 USDT 59.33 % Profitto netto	96 Totale operazioni chiuse	57.29 % Percentuale di profitto

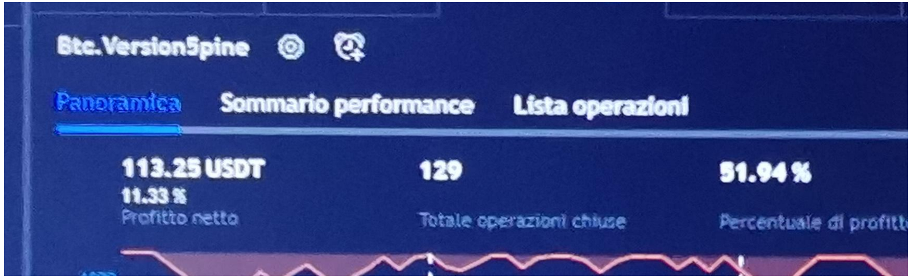


Btc.Version5pine

Panoramica | Sommario performance | Lista operazioni | Proprietà

Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media	Num. medio di barre in operazioni
−107.84 USDT −10.78%	94	52.13%	0.96	501.66 USDT 48.29%	−1.15 USDT −0.01%	42

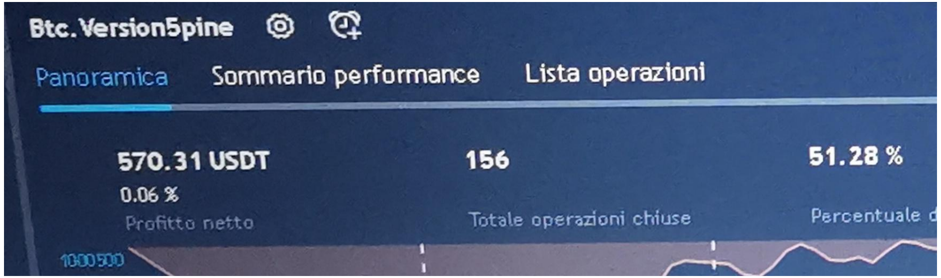
☑ Drawdown ☑ Capitale ☑ Buy & hold equity



Btc.Version5pine

Panoramica | Sommario performance | Lista operazioni

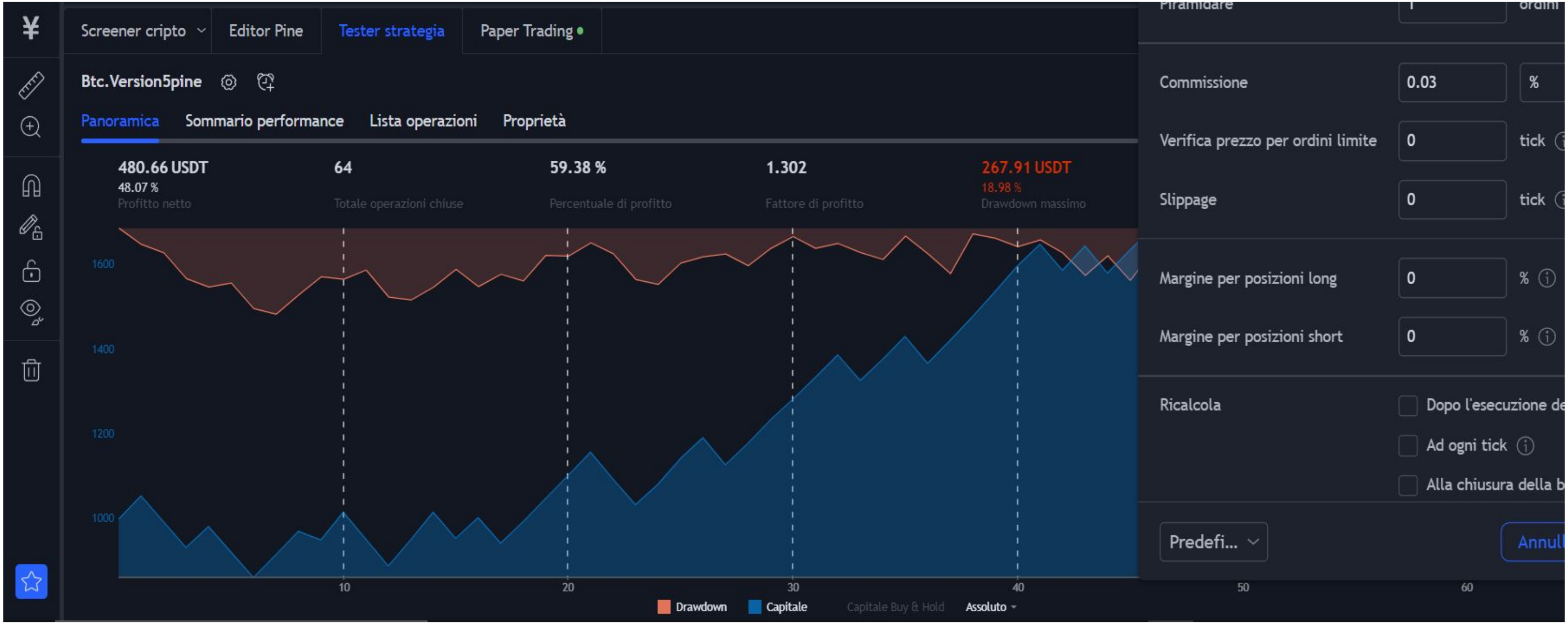
Profitto netto	Totale operazioni chiuse	Percentuale di profitt
113.25 USDT 11.33 %	129	51.94 %



Btc.Version5pine

Panoramica | Sommario performance | Lista operazioni

Profitto netto	Totale operazioni chiuse	Percentuale d
570.31 USDT 0.06 %	156	51.28 %



Btc.Version5pine

480.66 USDT
48.07 %
Profitto netto

64
Totale operazioni chiuse

59.38 %
Percentuale di profitto

1.302
Fattore di profitto

267.91 USDT
18.98 %
Drawdown massimo

Piramidare 1 ordini

Commissione 0.03 %

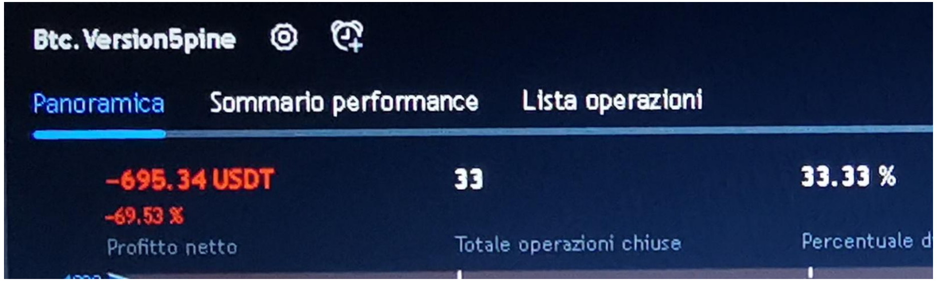
Verifica prezzo per ordini limite 0 tick

Slippage 0 tick

Margine per posizioni long 0 %

Margine per posizioni short 0 %

Ricalcola
□ Dopo l'esecuzione de
□ Ad ogni tick
□ Alla chiusura della b

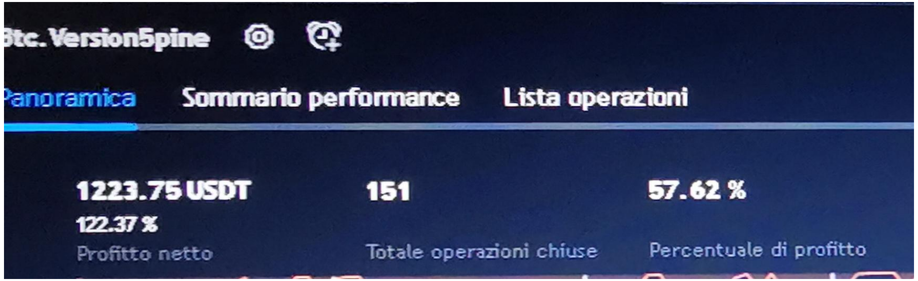


Btc.Version5pine

-695.34 USDT
-69.53 %
Profitto netto

33
Totale operazioni chiuse

33.33 %
Percentuale d



Btc.Version5pine

1223.75 USDT
122.37 %
Profitto netto

151
Totale operazioni chiuse

57.62 %
Percentuale di profitto

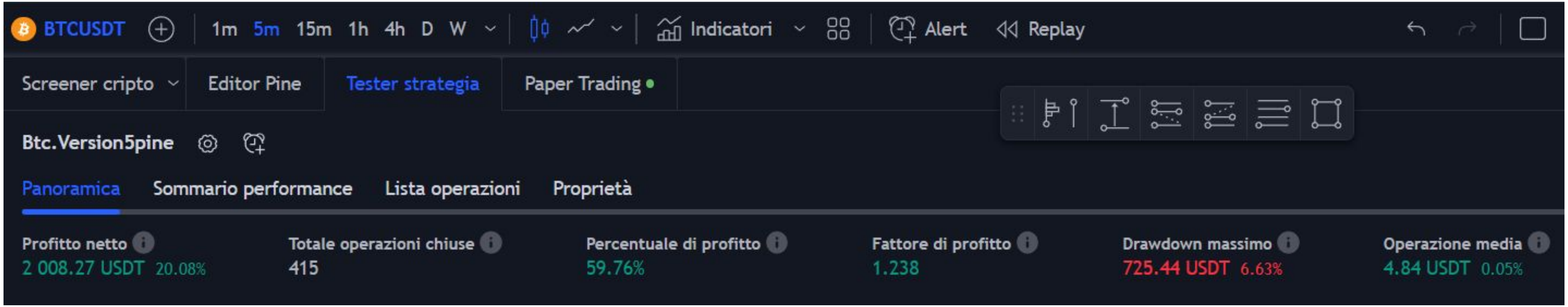
I downloaded two-year price data with 1Minute timeframe from cryptodatadownload.com but in Python the problem is I can't implement it to the backtesting.py package to do backtesting.
I’m trying with Pinescript, but as already said it doesn't allow you to go to far back in time if you have a one minute timeframe.

So what I need is:

- Find an effective method to backtest at least 10000 operations
- How to set the operations making sure that they aren’t opened in a trend moment
- Enter at the same time trailing stop and stop loss which moves dynamically
- Various performance statistics
- Possible Bot to implement

This strategy should also be fractal. I did some backtest on timeframes at 5m, 15m and 1h, and by changing the parameters and the thresholds the results seem to be good, having even more backtesting time

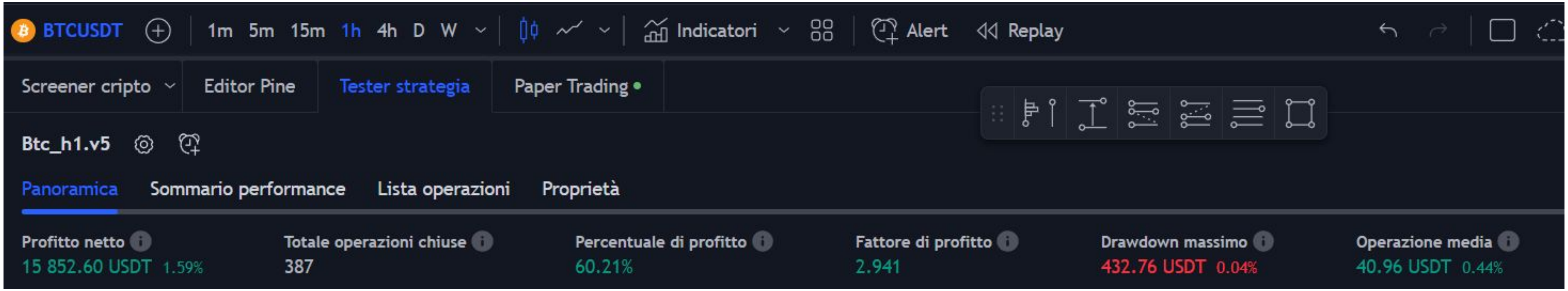
TIMEFRAME 5 MIN. FROM BEGINNING OF THE MONTH



Btc.Version5pine

Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media
2 008.27 USDT 20.08%	415	59.76%	1.238	725.44 USDT 6.63%	4.84 USDT 0.05%

TIMEFRAME 1 HOUR. YEAR TO DATE

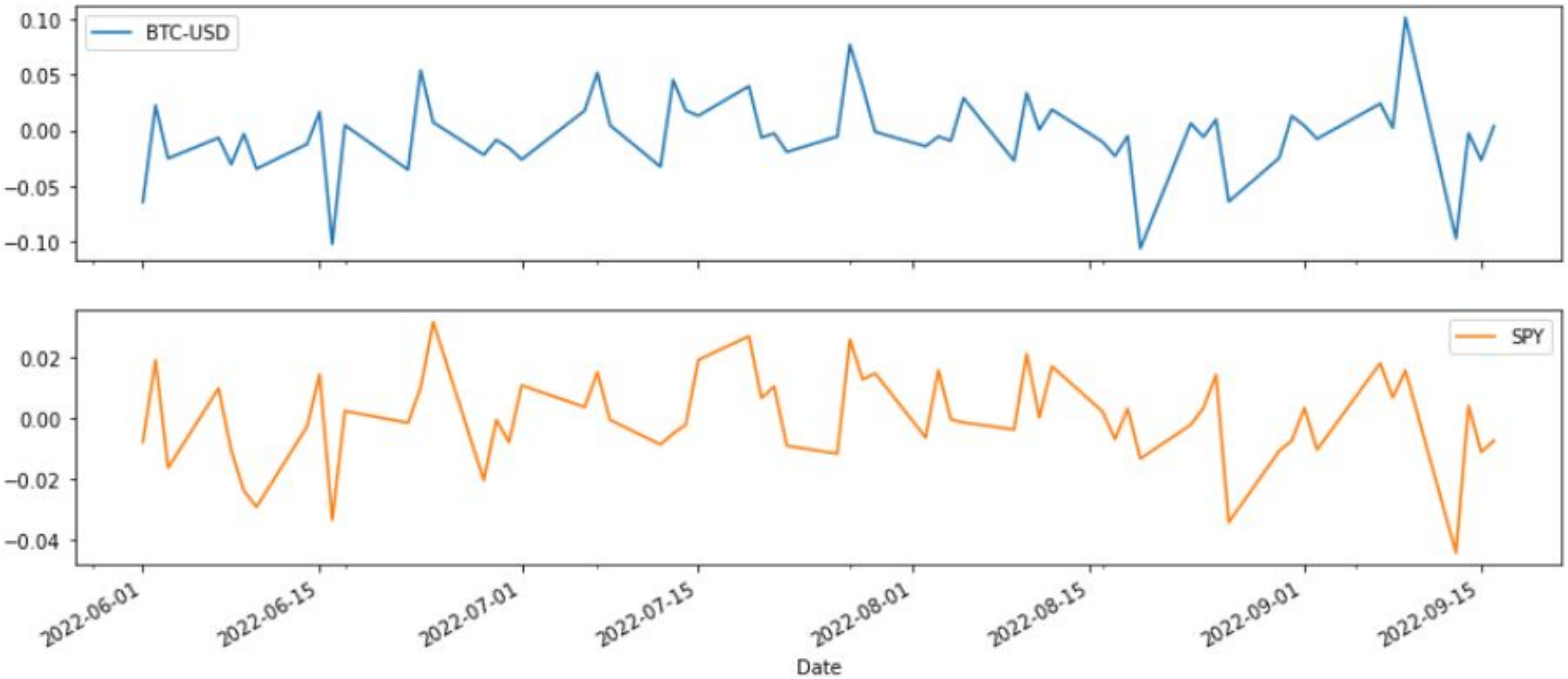


Btc_h1.v5

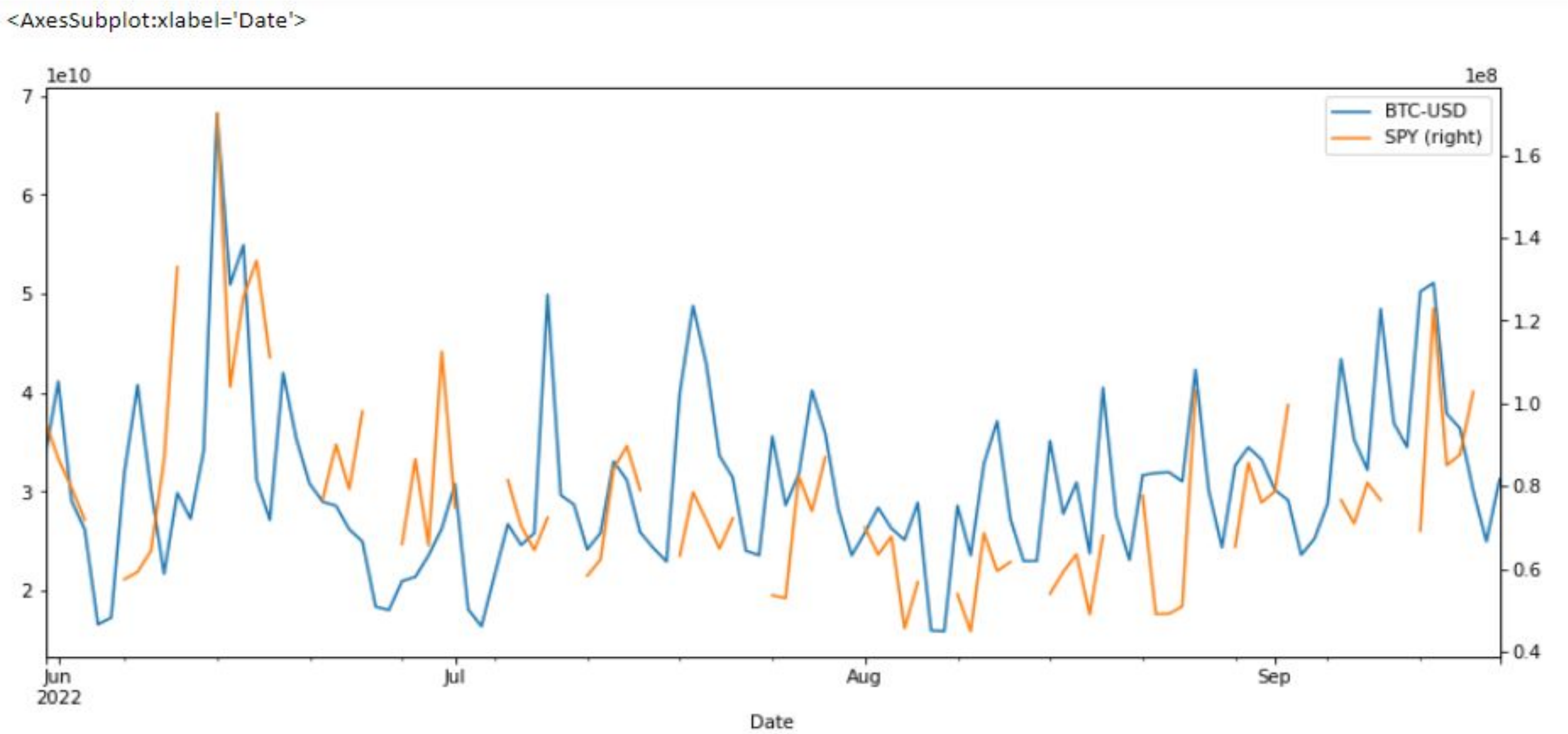
Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media
15 852.60 USDT 1.59%	387	60.21%	2.941	432.76 USDT 0.04%	40.96 USDT 0.44%

Although riskier, I prefer to trade at low time frames to avoid too many external influences, such as news, FOMC reports, black swans and **high correlation** to US equity markets such as the **S&P500** and **Nasdaq**.

Correlation between the logarithmic returns of BTC and the S&P500 from June 1st.



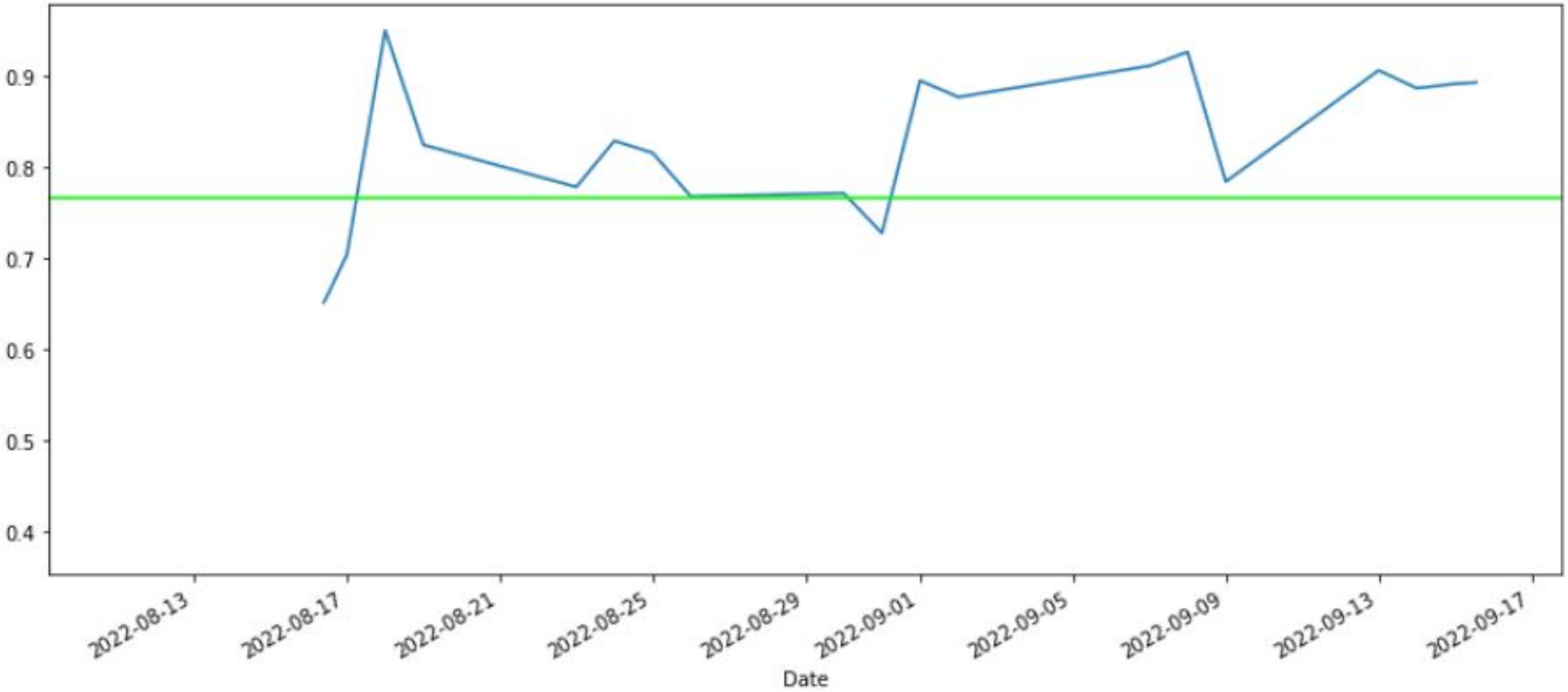
Correlation between the volumes of Bitcoin and the S&P500 since June



```
<AxesSubplot:xlabel='Date'>
```

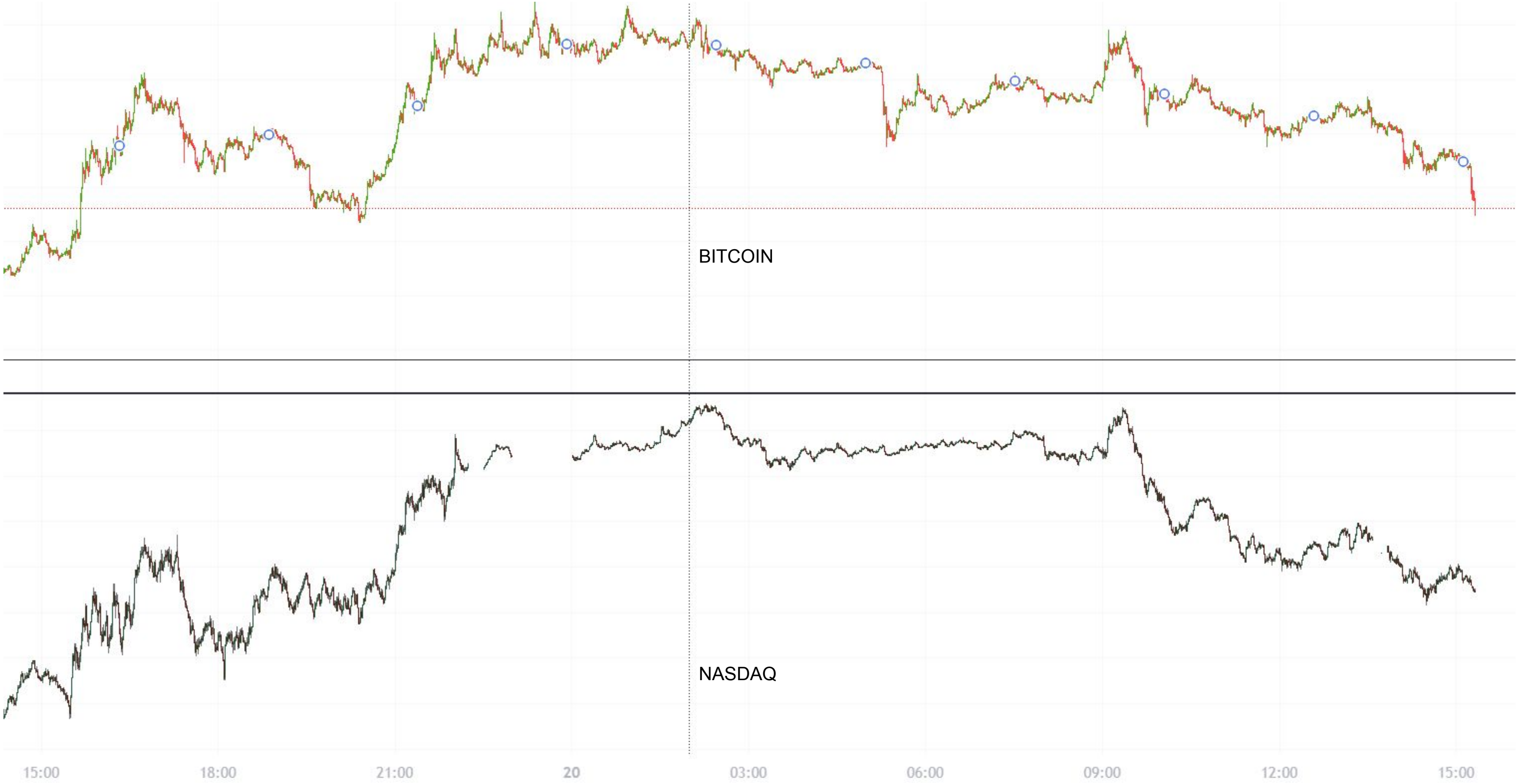
*Data from Yfinance.py

Correlation between Bitcoin and Nasdaq closings in the last month.



*Correlation ranges from to -1 (low correlation) to 1 (high correlation)

As we also clearly see in the graphs at 1 minute, the correlation exists even at low timeframes.



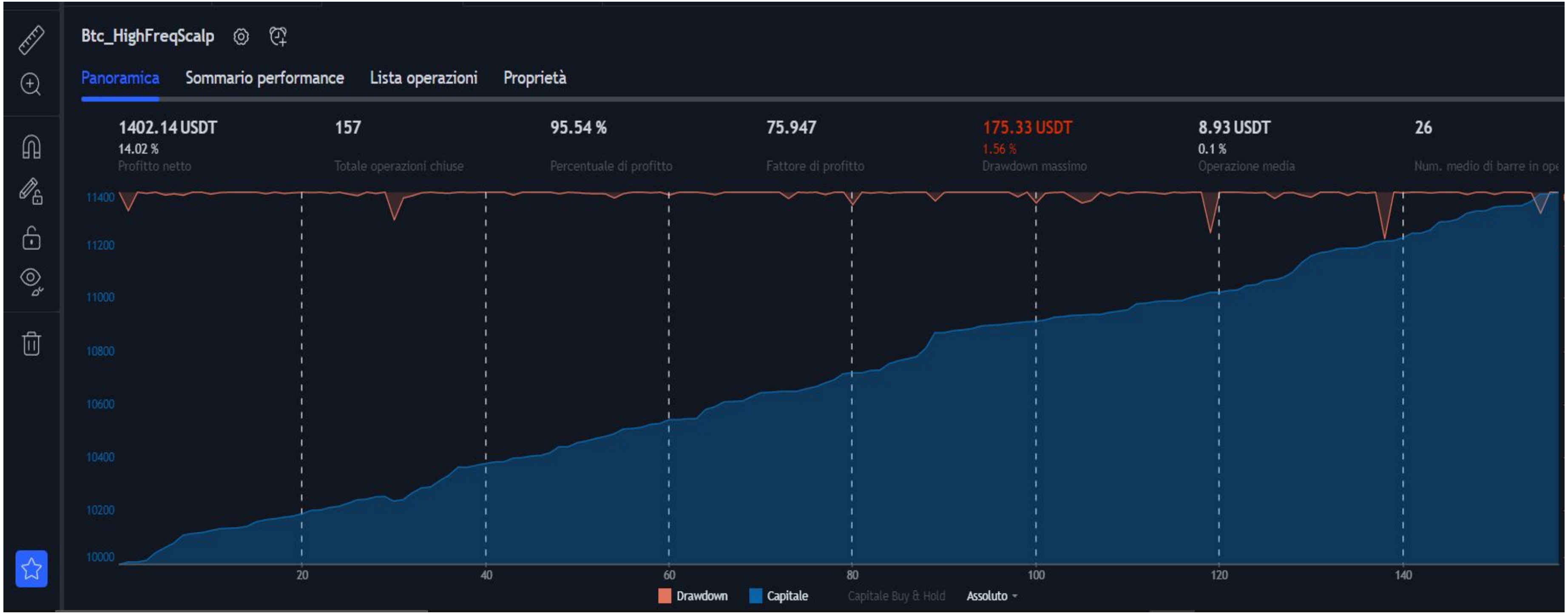
For this reason I decided to test the same strategy but at a higher frequency:

- positions with stop losses and trailing stops much tighter, so that the trade is not influenced by external factors

- lower entry thresholds in order to compensate for backtesting operations

- larger sizes, taking into consideration the risk management, the size can be doubled or tripled

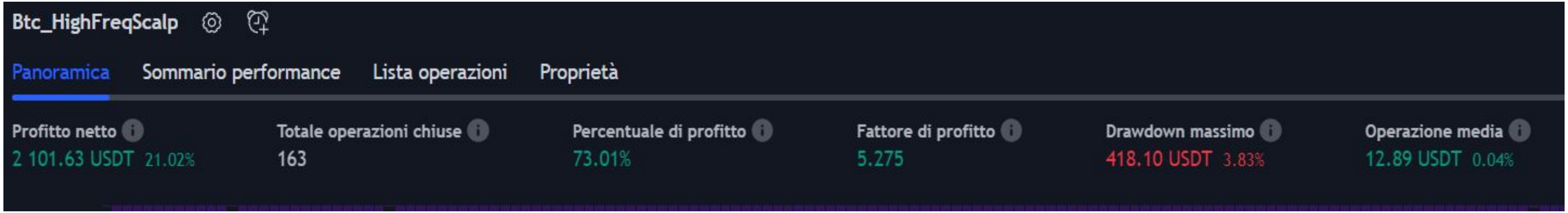
I enclose some performances.



Btc_HighFreqScalp

Panoramica | Sommario performance | Lista operazioni | Proprietà

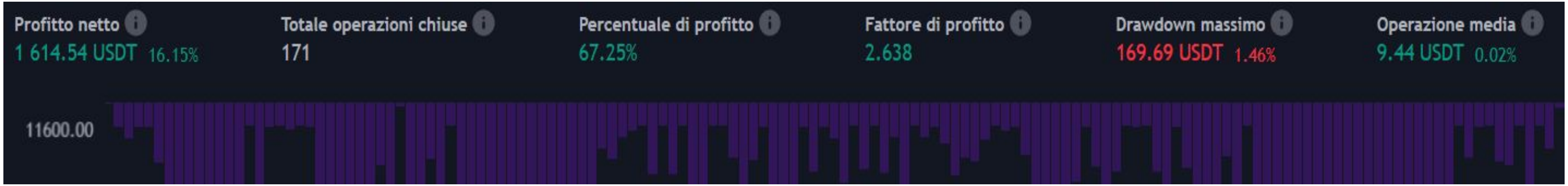
1402.14 USDT 14.02 %	157	95.54 %	75.947	175.33 USDT 1.56 %	8.93 USDT 0.1 %	26
Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media	Num. medio di barre in ope



Btc_HighFreqScalp

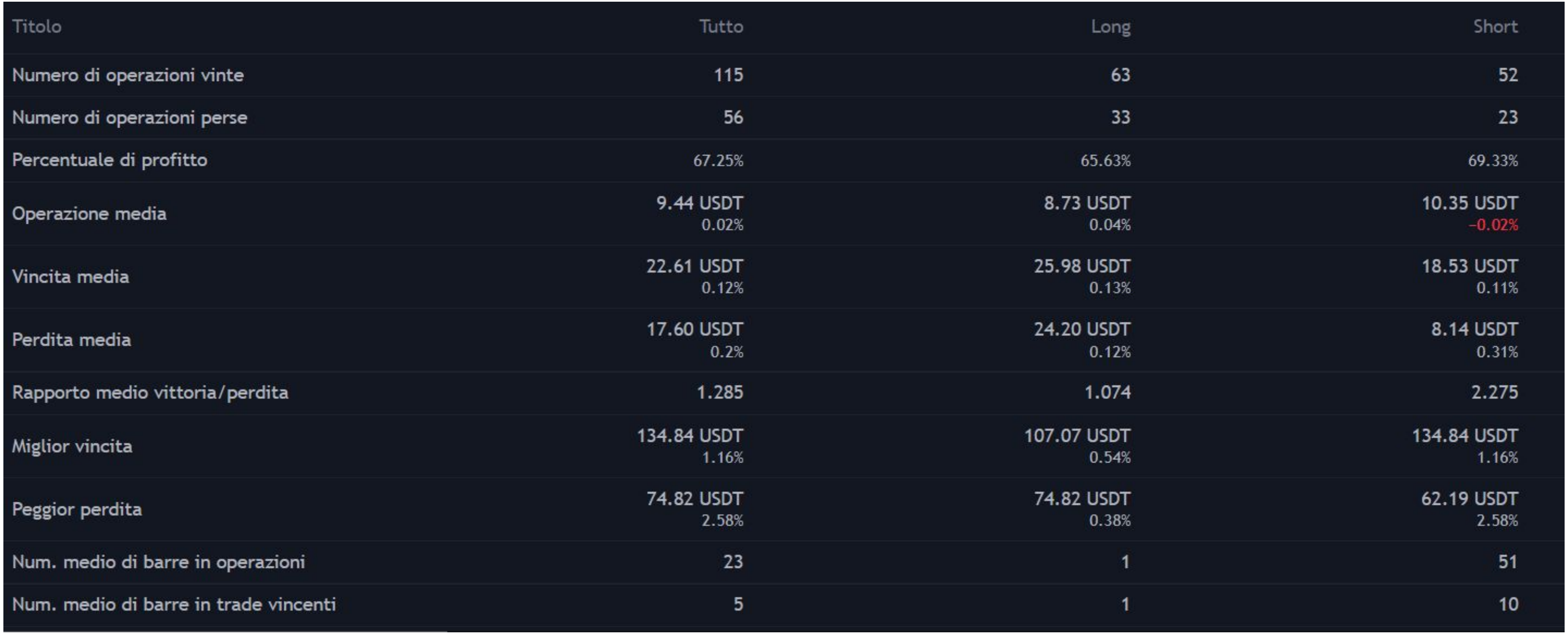
Panoramica | Sommario performance | Lista operazioni | Proprietà

Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media
2 101.63 USDT 21.02%	163	73.01%	5.275	418.10 USDT 3.83%	12.89 USDT 0.04%



Profitto netto	Totale operazioni chiuse	Percentuale di profitto	Fattore di profitto	Drawdown massimo	Operazione media
1 614.54 USDT 16.15%	171	67.25%	2.638	169.69 USDT 1.46%	9.44 USDT 0.02%

Some performance statistics (in italian)



Titolo	Tutto	Long	Short
Numero di operazioni vinte	115	63	52
Numero di operazioni perse	56	33	23
Percentuale di profitto	67.25%	65.63%	69.33%
Operazione media	9.44 USDT 0.02%	8.73 USDT 0.04%	10.35 USDT −0.02%
Vincita media	22.61 USDT 0.12%	25.98 USDT 0.13%	18.53 USDT 0.11%
Perdita media	17.60 USDT 0.2%	24.20 USDT 0.12%	8.14 USDT 0.31%
Rapporto medio vittoria/perdita	1.285	1.074	2.275
Miglior vincita	134.84 USDT 1.16%	107.07 USDT 0.54%	134.84 USDT 1.16%
Peggior perdita	74.82 USDT 2.58%	74.82 USDT 0.38%	62.19 USDT 2.58%
Num. medio di barre in operazioni	23	1	51
Num. medio di barre in trade vincenti	5	1	10

It seems to perform better than the other but in addition to having an excellent connection it works obviously only via bots.
About that it could work either through python scripts connected directly to Binance,
or through a software.
I found “TradingviewHub” (https://www.tv-hub.org/) which clearly connects to Tradingview and which, through the various APIs, opens operations when it receives a TV alarm (simply set also with the free plan).

That's it.
Thanks for your help.
Marco