

# TRADING STRATEGIES IN CRYPTOCURRENCY MARKETS



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# INTRODUCTION

- Background Information
- Purpose







# METHODS AND MATERIALS

- White Papers
- Indicators and Start-ups
- Graph analyzes

# WHITE PAPERS

- Information stored
- Purpose and Technology
- Legitimacy and Professional Outlook
- Why to choose the coin

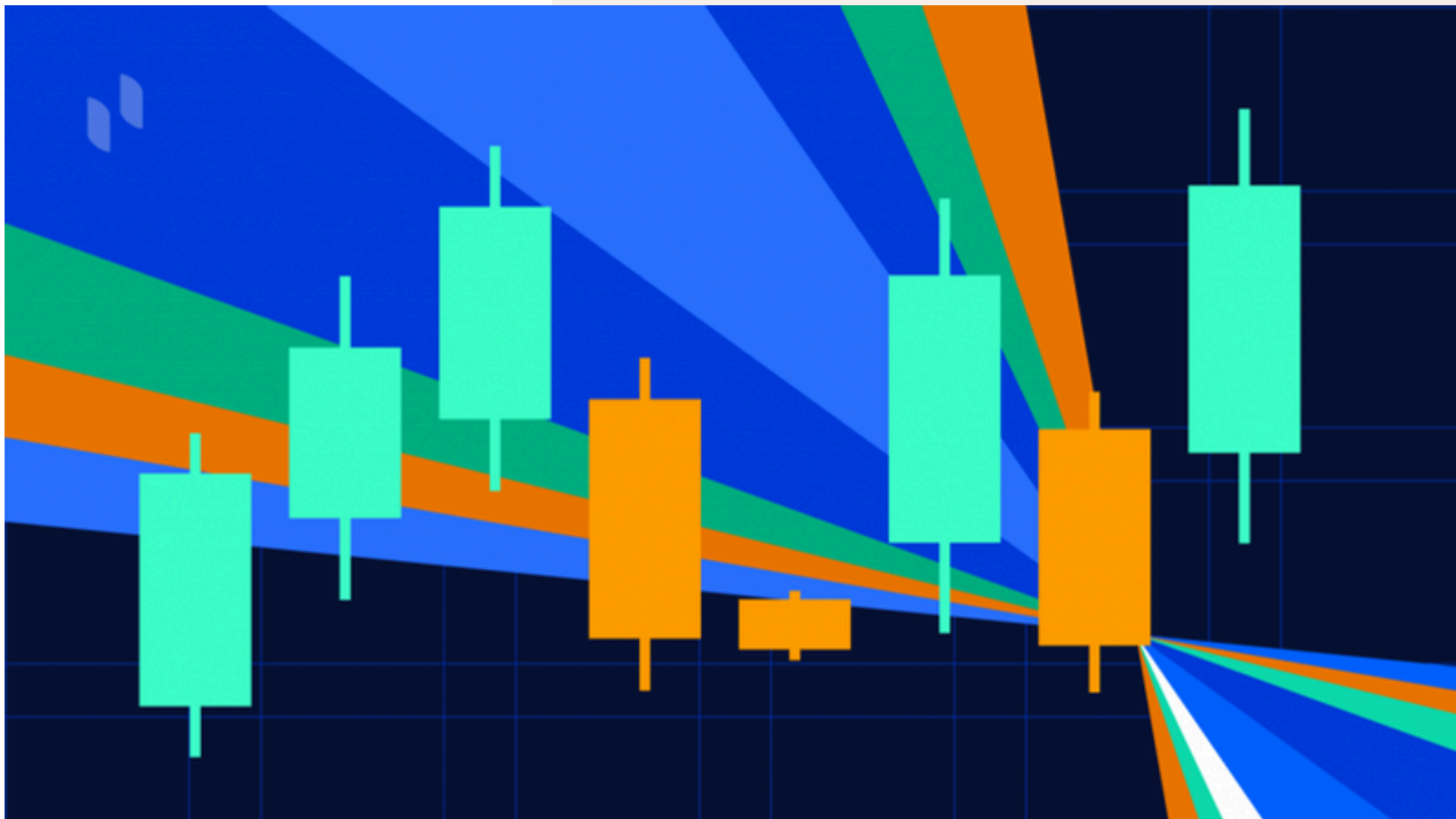


# WHAT ARE TRADING INDICATORS ?

-Set of tools => makes market more clear

- More insight into price trends

-Gives specific information for;  
when market is trending  
when market is ranging



# INDICATORS USED IN THE PROJECT

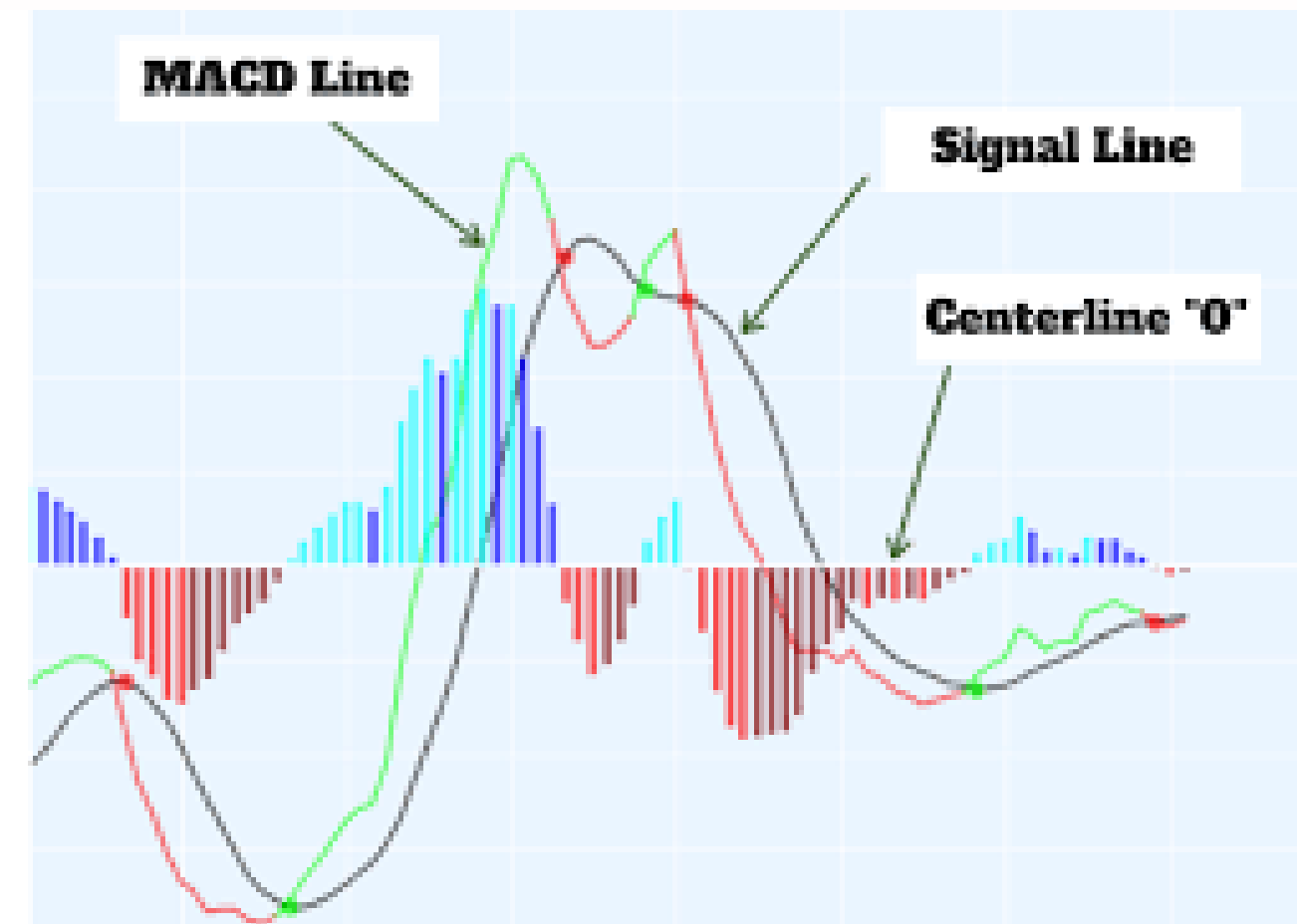
## RSI (RELATIVE STRENGTH INDEX)

- Momentum indicator
- Magnitude of recent price changes
- Overbought or Oversold conditions



## MACD (WHAT IS MOVING AVERAGE CONVERGENCE DIVERGENCE)

- Momentum indicator
- Smoothing price movements
- Comparing with medium-term trend line

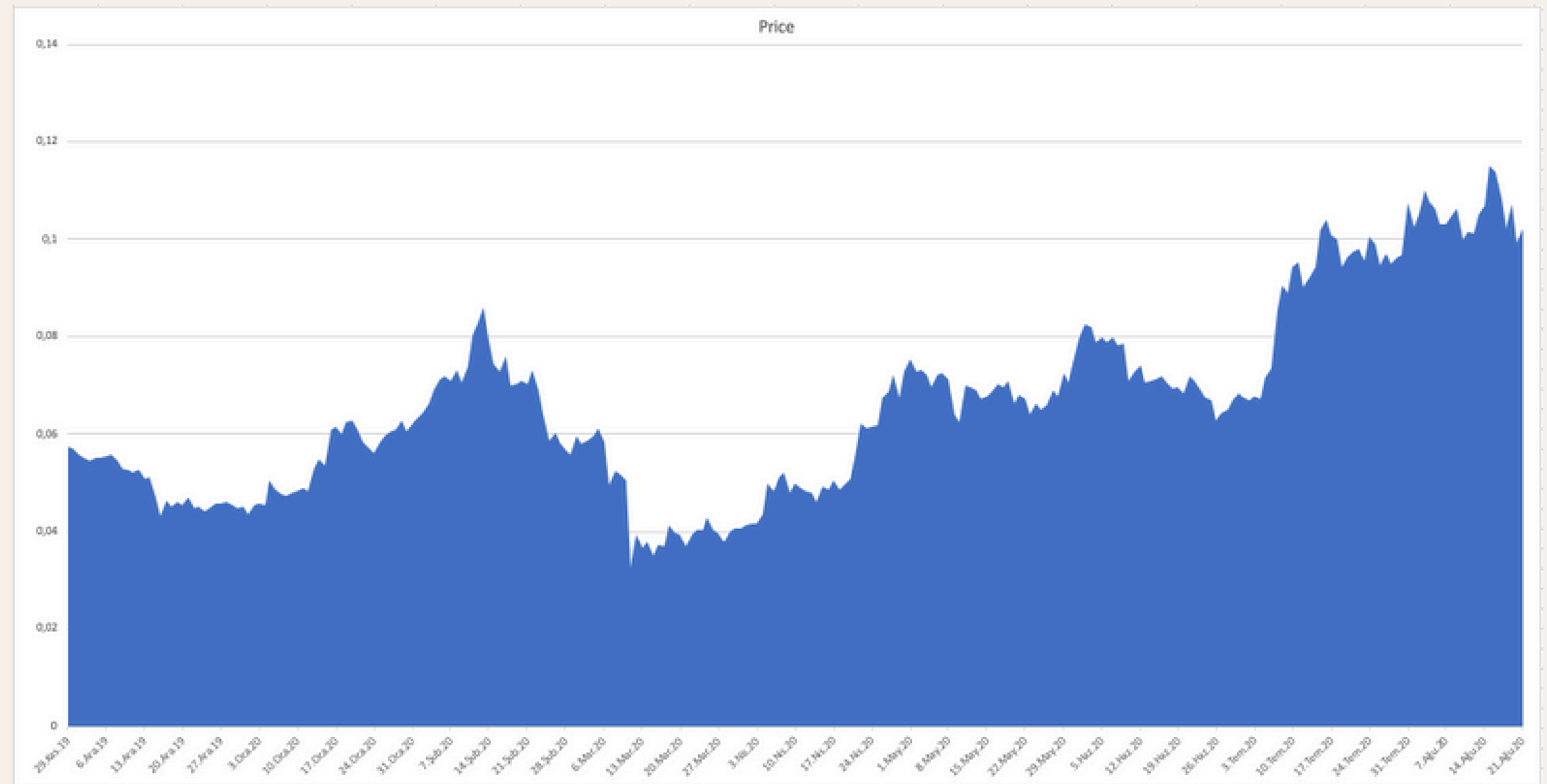


# RSI INDICATOR

RSI > 70 ==> Oversold  
RSI > 70 ==> Overbought

$$RSI_{\text{step one}} = 100 - \left[ \frac{100}{1 + \frac{\text{Average gain}}{\text{Average loss}}} \right]$$

$$RSI_{\text{step two}} = 100 - \left[ \frac{100}{1 + \frac{(\text{Previous Average Gain} \times 13) + \text{Current Gain}}{((\text{Previous Average Loss} \times 13) + \text{Current Loss})}} \right]$$

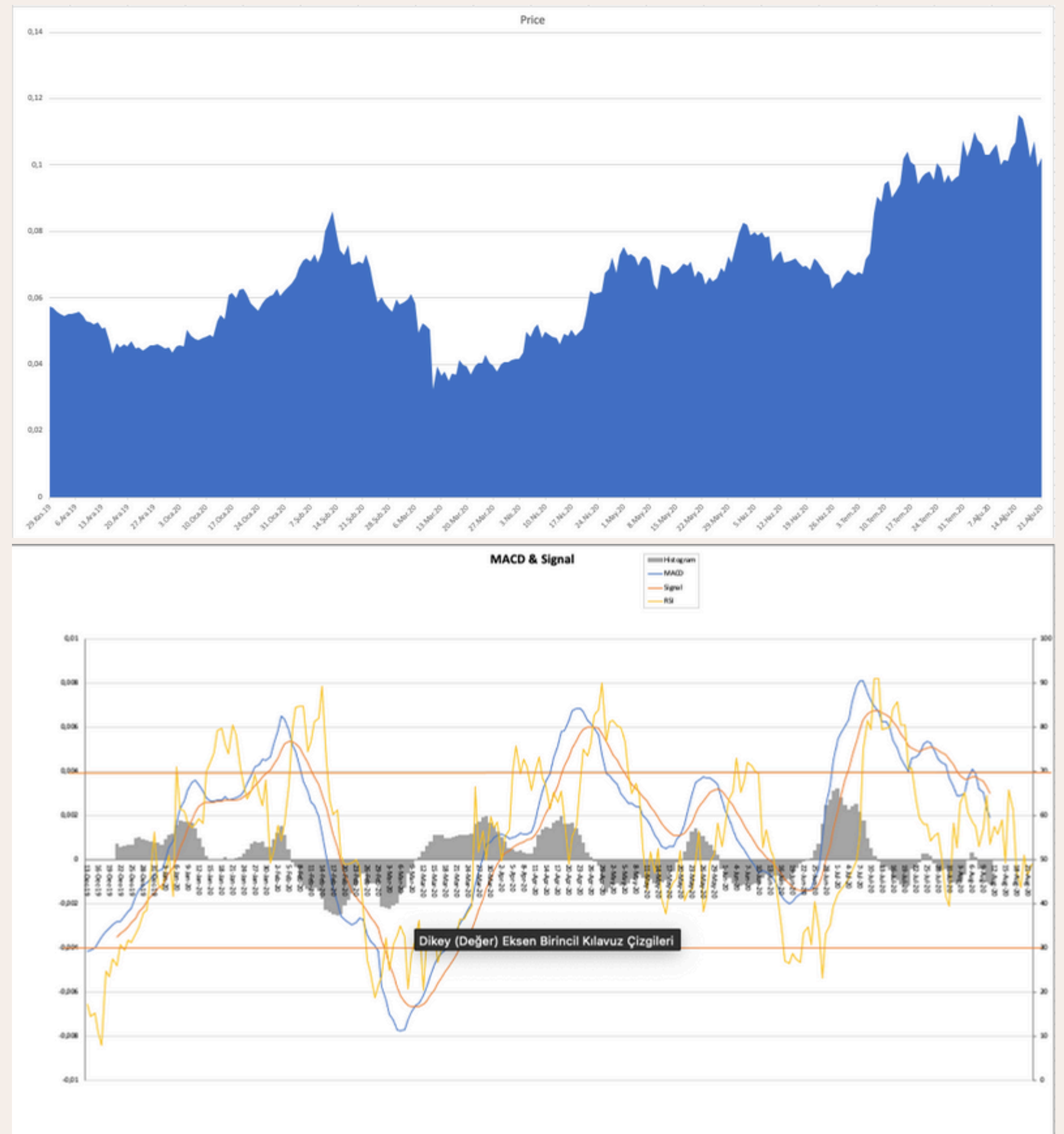


## MACD Formula

$$\text{MACD} = 12\text{-Period EMA} - 26\text{-Period EMA}$$

12 Day EMA Calculation:  
First Step: Calculate the  
average of 12 day closing price

Second Step:  
Closing price $\times(2/(12+1))+$ Previous  
EMA $\times(1-(2/(12+1)))$





# STRATEGY

## COMBINING THE TWO INDICATORS

RSI Indicators:

- Strong buy/buy if RSI > 55
- Strong sell/sell if RSI < 45
- Otherwise retain

MACD Indicators:

- If MACD > Signal then rising trend
- If MACD < Signal then falling trend

Buying the coin if MACD indicator changes from fall to rise and previous 5 RSI indicators suggest to buy

Selling the coin if MACD indicator changes from rise to fall and previous 5 RSI indicators suggest to sell

Strong Buy	Fall	-	0.026834542	1839.371675
Strong Buy	Fall	-	-0.06737676	1839.371675
Strong Buy	Fall	-	0.028021248	1839.371675
Strong Buy	Fall	-	0.015760238	1839.371675
Strong Buy	Fall	-	-0.01551571	1839.371675
Strong Buy	Fall	-	0.011109676	1839.371675
Buy	Fall	-	0.036540181	1839.371675
Buy	Fall	-	0.031800814	1839.371675
Buy	Fall	-	0.001672441	1839.371675
Buy	Fall	-	-0.04615385	1839.371675
Buy	Rise	Buy	0.002375594	1839.371675
Strong Buy	Rise	-	-0.02918798	1785.684139
Buy	Rise	-	0.009893357	1803.35055

Strong Sell	Rise	-	0.014931993	1739.295668
Strong Sell	Rise	-	0.050691916	1827.463897
Strong Sell	Rise	-	-0.06488285	1708.89283
Strong Sell	Rise	-	0.079762787	1845.198885
Strong Sell	Rise	-	0.035974186	1911.578414
Strong Sell	Rise	-	-0.03392975	1846.719027
Strong Sell	Rise	-	0.006173686	1858.120091
Strong Sell	Rise	-	-0.01636215	1827.717254
Sell	Rise	-	-0.03299141	1767.418292
Sell	Rise	-	0.033830275	1827.21054
Sell	Fall	Sell	0.006655574	1839.371675

# CODE TO IMPLEMENT THE STRATEGY

```
Dim rise As Boolean 'true if it is rising and false if it is not
While Len(Range("B" & CStr(SearchRow)).Value) > 0
    If recentAction <> "" Then
        Cells(SearchRow, 25).Value = "-"
    End If
    If Cells(SearchRow, 22).Value = "Rise" Then
        If Cells(SearchRow - 1, 22).Value = "Fall" Then
            If consecutiveCount >= 5 Then
                If (recentAction = "Sell" Or recentAction = "") And (Cells(SearchRow, 21) = "Strong Buy" Or Cells(SearchRow, 21) = "Buy") Then
                    recentAction = "Buy"
                    Cells(SearchRow, 25).Value = "Buy"
                    rise = True
                End If
            End If
            consecutiveCount = 1
        Else
            consecutiveCount = consecutiveCount + 1
        End If
    ElseIf Cells(SearchRow, 22).Value = "Fall" Then
        If Cells(SearchRow - 1, 22).Value = "Rise" Then
            If consecutiveCount >= 5 Then
                If (recentAction = "Buy") And (Cells(SearchRow, 21) = "Strong Sell" Or Cells(SearchRow, 21) = "Sell") Then
                    recentAction = "Sell"
                    Cells(SearchRow, 25).Value = "Sell"
                    rise = False
                End If
            End If
            consecutiveCount = 1
        Else
            consecutiveCount = consecutiveCount + 1
        End If
    Else
        Cells(SearchRow, 25).Value = "-"
    End If
    SearchRow = SearchRow + 1
Wend
```

# RESULTS AND POSSIBLE IMPROVEMENTS

## STELLAR

RSI AND MACD	
INVESTED	1000
PROFIT	3725
%PROFIT	372.5

BUY AND HOLD	
INVESTED	1000
PROFIT	3659
%PROFIT	365.9



- Comparing the results with a simple buy and hold strategy.
- Can be improved by making the strategy more sensitive to changes.

Date	Open	High	Low	Close	Highest High 5 Days	Lowest Low 5 Days	5-day Stochastic Oscillator Value %K	TRADE SIGNALS
06/14/2021	40,93	40,93	39,38	39,81				
06/15/2021	39,84	41,29	39,61	39,95				
06/16/2021	39,94	40,47	38,36	38,55				
06/17/2021	38,55	39,51	37,45	37,75				
06/18/2021	37,75	38,19	35,2	35,49	41,289	35,204	4,7494	BUY
06/19/2021	35,49	36,4	34,89	36,19	41,289	34,888	20,3874	
06/20/2021	36,19	36,19	33,4	35,85	40,473	33,4	34,6812	
06/21/2021	35,85	35,91	31,82	32,62	39,51	31,822	10,4058	BUY
06/22/2021	32,62	33,24	29	32,9	38,186	29,002	42,3889	
06/23/2021	32,9	34,79	31,77	33,07	36,396	29,002	54,9635	
06/24/2021	33,07	35,23	32,36	34,86	36,193	29,002	81,4212	SELL
06/25/2021	34,86	35,5	31,51	32,21	35,905	29,002	46,5015	
06/26/2021	32,21	32,64	30,19	31,33	35,496	29,002	35,8331	
06/27/2021	31,32	33,56	30,97	32,65	35,496	30,19	46,3249	
06/28/2021	32,65	35,22	32,49	34,72	35,496	30,19	85,3939	SELL
06/29/2021	34,68	36,55	34,14	36,16	36,548	30,19	93,8345	SELL
06/30/2021	36,16	36,3	34,08	34,59	36,548	30,19	69,1255	
07/01/2021	34,59	35,2	32,82	33,41	36,548	30,968	43,7814	
07/02/2021	33,41	33,96	32,75	33,12	36,548	32,493	15,5610	BUY

# Stochastic Oscillator STRATEGY

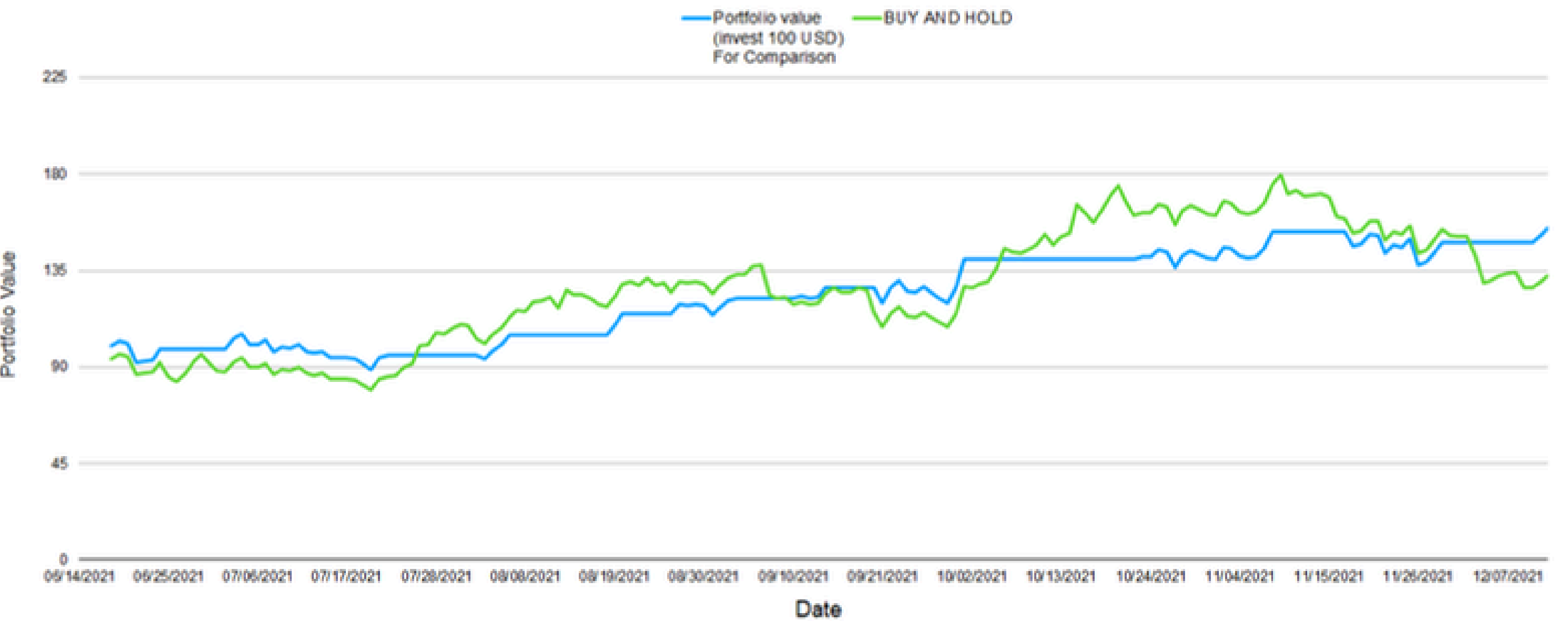
- Stochastic Oscillator Value (%K) = (Current Close - Lowest Low) / (Highest High - Lowest Low) \* 100
- %K over 80 -> Overbought
- %K under 20 -> Oversold



Date	Open	High	...	TRADE	Asset return	Portfolio value (invest 100 USD)	Profits	BUY AND HOLD
06/14/2021	40,93	40,93	...					
06/15/2021	39,84	41,29	...					
06/16/2021	39,94	40,47	...					
06/17/2021	38,55	39,51	...					
06/18/2021	37,75	38,19	...	BUY	-0,0598	100		94,0162
06/19/2021	35,49	36,4	...		0,0197	101,972		95,8704
06/20/2021	36,19	36,19	...		-0,0094	101,014		94,9698
06/21/2021	35,85	35,91	...	BUY	-0,0901	91,911		86,4113
06/22/2021	32,62	33,24	...		0,0084	92,680		87,1345
06/23/2021	32,9	34,79	...		0,0052	93,162		87,5874
06/24/2021	33,07	35,23	...	SELL	0,0542	98,208		92,3315
06/25/2021	34,86	35,5	...		-0,0759	90,756	-9,244	85,3253
06/26/2021	32,21	32,64	...		-0,0274			82,9863
06/27/2021	31,32	33,56	...		0,0421			86,4802
06/28/2021	32,65	35,22	...	SELL	0,0635			91,9713
06/29/2021	34,68	36,55	...	SELL	0,0413			95,7724
06/30/2021	36,16	36,3	...		-0,0435			91,6110
07/01/2021	34,59	35,2	...		-0,0339			88,5013
07/02/2021	33,41	33,96	...	BUY	-0,0086	90,756		87,7410
07/03/2021	33,12	34,93	...		0,0480	95,115		91,9554
07/04/2021	34,72	35,68	...		0,0238	97,381		94,1460
07/05/2021	35,54	35,95	...		-0,0477	92,737		89,6562
07/06/2021	33,85	35,06	...		0,0028	92,994		89,9052

11/27/2021	54,1	55,34	...	BUY	0,0092	140,479		144,6307
11/28/2021	54,6	56,4	...		0,0308	144,802		149,0808
11/29/2021	56,3	58,88	...	SELL	0,0353	149,909		154,3388
11/30/2021	58,3	59,15	...		-0,0193	147,022	-7,608	151,3668
12/01/2021	57,1	59,09	...		-0,0021			151,0542
12/02/2021	57	57,36	...		-0,0021			150,7311
12/03/2021	56,9	57,46	...		-0,0568			142,1700
12/04/2021	53,6	53,87	...		-0,0918			129,1190
12/05/2021	48,8	49,75	...		0,0109			130,5229
12/06/2021	49,3	50,43	...		0,0149			132,4619
12/07/2021	50,1	51,94	...		0,0099			133,7677
12/08/2021	50,5	51,18	...		0,0027			134,1227
12/09/2021	50,6	50,85	...	BUY	-0,0521	147,022		127,1350
12/10/2021	48	49,98	...	BUY	-0,0003	146,985		127,1032
12/11/2021	48	49,29	...		0,0180	149,629		129,3892
12/12/2021	48,8	50,77	...		0,0232	153,102	6,0805	132,393
							+53,102 USD (TOTAL PROFIT)	+32,393 USD (TOTALPROFIT)

# BENCHMARK COMPARISON: BTC



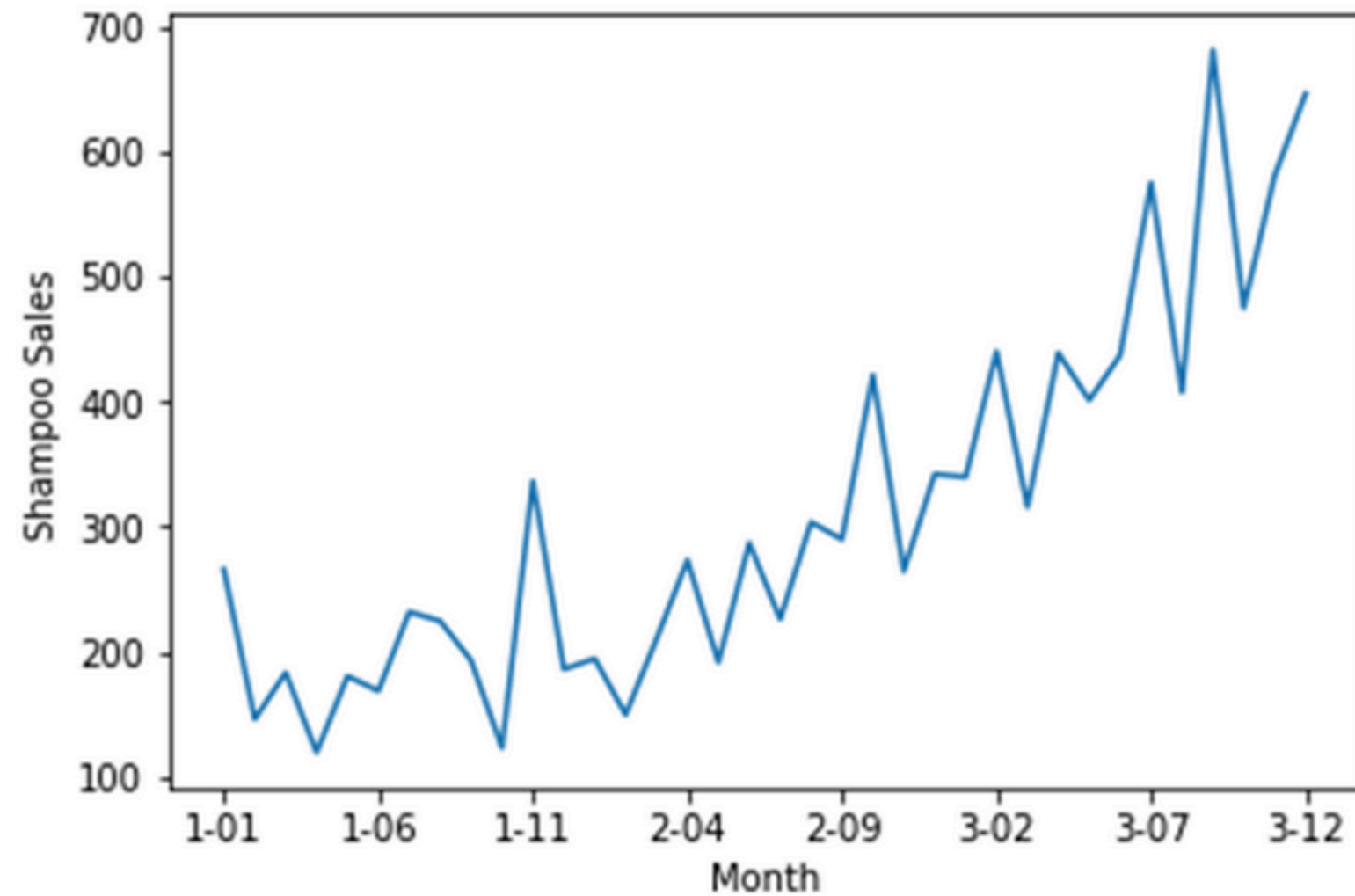
# Moving Average Strategy

- Comparing 20 day average & 40 day average

• Avg 20 > Avg 40  BUY/HOLD

• Avg 20 < Avg 40  SELL

## MORE DETAILS



- Moving Average
- Trend (Behaviour)



# Results & Analysis

- Monero(XMR)
- Comparison with default
- Profitable
- Can be improved(Programming)



# INVESTING TO STARTUPS

- Participating in pre-sales
- Selling in the first publicly offered date
- Short-term strategy
- A bit risky strategy without wide range of portfolio!



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# How the Strategy Works?



information for Startup

price

\$0.6(USDT)

Max supply

300,000,000

Initial circulation supply

2,320,000

Startup sale token supply

100,000

**First Day  
Closing Price**

DeHorizon (DEVT)

\$1.3

DATE	OPEN	HIGH	LOW	CLOSE
12/13/2021	\$1.5032	\$2.3778	\$1.4639	\$1.8290
12/12/2021	\$2.4376	\$2.9413	\$1.3937	\$1.5043
12/10/2021	\$1.2032	\$6.6507	\$1.2032	\$3.1411

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# RESULTS



45 CRYPTOCURRENCY  
PROJECTS

INVESTING \$1000 EACH

TIME RANGE: 28 DAYS



# Conclusion

- Learning outcomes
- Application of results

