Momentum Trading Report

'Buy Low, Sell Lower', 'Trade Winners', 'Dom's Team' and 'Nicks Team'

K. Alexander, Semester 2 2021

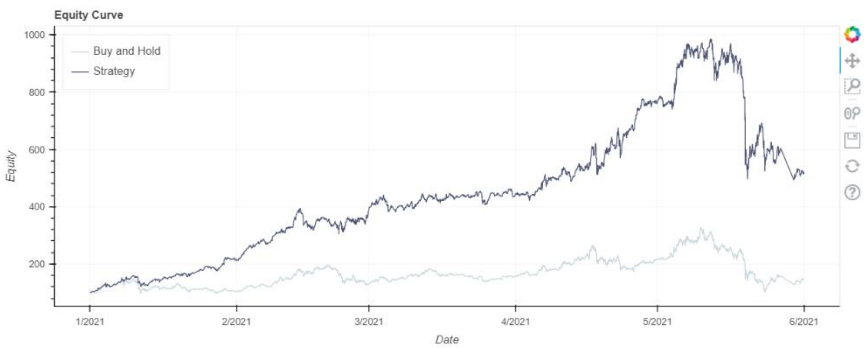
A Project Completed by the Trading Team in conjunction with

The University of Western Australia
November 2021 Quantitative Finance UWA

1 Algorithm Results

1.1 “Buy Low, Sell Lower”

Kane Alexander, Angus Jackson and Jake Lyell used parameter optimization over a variety of different momentum strategies to find an optimal algorithm for the parameters given. The resulting algorithm outperformed not only the market by a substantial percentage but also all other teams. Its efficacy is largely contributed too by the lenient conditions of the project, in particular, the low 0.01% trading fees. A real conditions implementation would likely see considerably worse results.

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------------- Results ---------------

Buy and Hold : 50.09%
Net Profit   : 50.09
Strategy     : 422.71%
Net Profit   : 422.71
Longs        : 1857
Sells        : 1857
Shorts       : 0
Covers       : 0
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Total Trades : 3714

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COIN: Binance_LTCUSDT_minute.csv DONE
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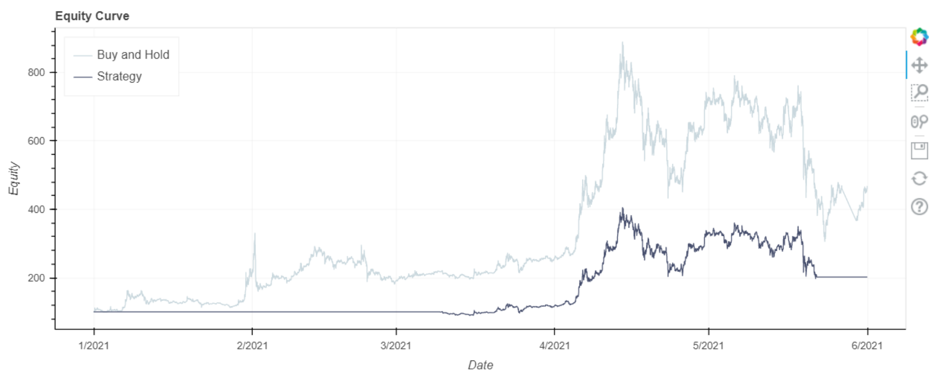
1.2 “Trade Winners”

Arya Gerami Zadegan, Isaac Bergl and Nenmar Warda implemented a strategy based on a three-point moving average combined with a RSI indicator. Since the strategy is conditional on multiple indicators it doesn’t make many frequent trades. Instead, it opts for a safer long-term strategy that minimizes damage from major market crashes. Although it underperformed relative to buy and hold, it did still return a profit over the 6 month test period.

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------------- Results ---------------

Buy and Hold : 367.36%
Net Profit   : 367.36
Strategy     : 102.13%
Net Profit   : 102.13
Longs        : 1
Sells        : 1
Shorts       : 0
Covers       : 0
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Total Trades : 2

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1.3 “Nick, Kevin and Sihle”

Nick Hodgskin, Kevin Shah Mansouri and Sihle Makore utilized resistance/support indicators in their algorithm. A parameter sweep to determine an optimal window size was also employed to further improved the algorithms viability. Its performance has very low variance, generally riding many up trends and avoiding almost all losses. It is a quintessential example of a momentum trading algorithm that is optimized for protection against market fluctuations. Although it not produce outstanding profits relative to buy and hold, it is very consistent at avoiding market drops and is a very viable algorithm for the open markets.


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------------- Results ---------------

Buy and Hold : 367.36%
Net Profit   : 367.36
Strategy     : 156.88%
Net Profit   : 156.88
Longs        : 21
Sells        : 20
Shorts       : 0
Covers       : 0
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Total Trades : 41

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COIN: Binance_XRPUSDT_minute.csv DONE
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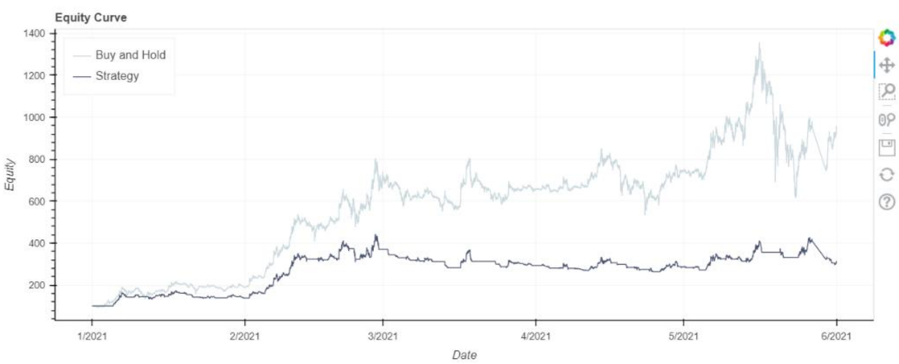
1.4 “Dom, Thomas and Rachel”

Dom Sauta, Thomas Cotter and Rachel Nguyen implemented a strategy revolving around multiple exponentially weighted moving averages. These moving averages were used to define a confidence value that dictated whether the algorithm would long or sell the crypto. This strategy produced very safe results, still returning a considerable profit but also underperforming the buy and hold of their chosen coin.

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------------- Results ---------------

Buy and Hold : 857.7%
Net Profit   : 857.7
Strategy     : 214.4%
Net Profit   : 214.4
Longs        : 84
Sells        : 83
Shorts       : 0
Covers       : 0
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Total Trades : 167

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COIN: Binance_ADAUSDT_minute.csv DONE
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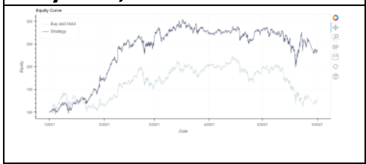
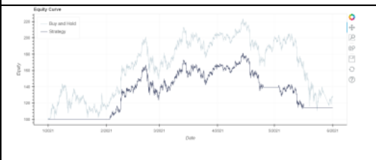
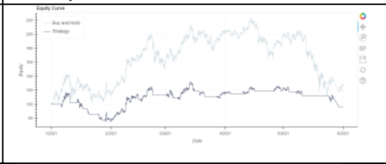
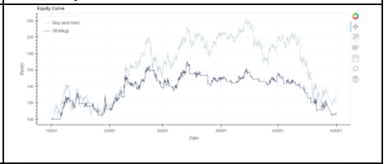
2 Benchmarks

2.1 BTC Benchmark

<table>
<tr><th>Buy Low, Sell Lower</th><th>Trade Winners</th><th>Nick, Kevin and Sihle</th><th>Dom, Thomas and Rachel</th></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr>
<td>------------- Results ---------------

Buy and Hold : 28.75%
Net Profit : 28.75
Strategy : 137.88%
Net Profit : 137.88
Longs : 1843
Sells : 1843
Shorts : 0
Covers : 0

Total Trades : 3686

COIN: Binance_BTCUSDT_minute.csv DONE</td>
<td>------------- Results ---------------

Buy and Hold : 28.75%
Net Profit : 28.75
Strategy : 14.2%
Net Profit : 14.2
Longs : 3
Sells : 3
Shorts : 0
Covers : 0

Total Trades : 6

COIN: Binance_BTCUSDT_minute.csv DONE</td>
<td>------------- Results ---------------

Buy and Hold : 28.75%
Net Profit : 28.75
Strategy : -4.14%
Net Profit : -4.14
Longs : 15
Sells : 15
Shorts : 0
Covers : 0

Total Trades : 30

COIN: Binance_BTCUSDT_minute.csv DONE</td>
<td>------------- Results ---------------

Buy and Hold : 28.75%
Net Profit : 28.75
Strategy : 7.73%
Net Profit : 7.73
Longs : 44
Sells : 43
Shorts : 0
Covers : 0

Total Trades : 87

COIN: Binance_BTCUSDT_minute.csv DONE</td>
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2.2 All Coins Benchmark (ADA, BTC, ETH, LTC, XRP)

	Buy and Hold	**Buy Low, Sell Lower**	**Trade Winners**	**Nick, Kevin and Sihle**	**Dom, Thomas and Rachel**
Total Return	**1568.28 %**	**1149.05 %**	**156.18 %**	**737.2 %**	**603.56 %**
ADA	857.7 %	368.35 %	29.41 %	298.71 %	214.4 %
BTC	28.75 %	137.88 %	14.2 %	-4.14 %	4.53 %
ETH	264.38 %	68.97 %	41.1 %	92.87 %	134.16 %
LTC	50.09 %	422.71 %	-30.66 %	59.24 %	5.01 %
XRP	367.36 %	151.14 %	102.13 %	156.88 %	379.1 %

2.3 Summary

The effectiveness of each strategy was further evaluated over all coins for the unseen period. This results largely reflected the findings found for each individual strategy on their chosen coin. “Buy Low, Sell Lower” produced the most consistent and profitable results overall, but was outperformed in some instances by both Nick and Dom’s team.