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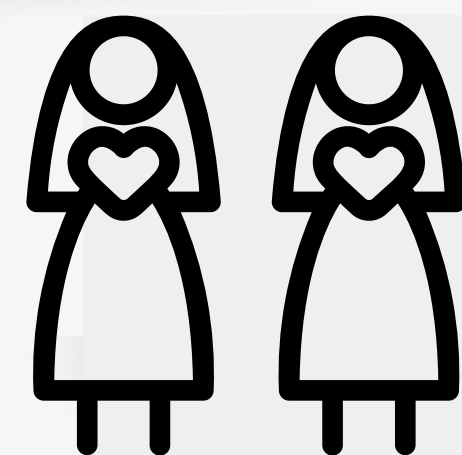
PAIR IDENTIFICATION AND SELECTION

Sector and Stationarity

A stylized pie chart icon with a thick black outline and a grey shaded segment.

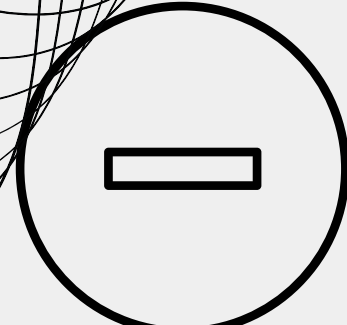
We select few stocks from the same sector, this is done in order to maintain stationarity. This is checked by co-integration test, pairwise co-integration must be less than 0.05.

Correlation Test

An icon of two stylized women holding hands, each holding a heart.

If all values in the correlation matrix are positive, then we choose the stock pair with the highest correlation.

Correlation values are Negative

A stylized minus sign icon inside a circle.

If values in the correlation matrix are negative then we choose the pair with minimum correlation, this way when one of the stock price increases the other one decreases, which increases the spread.



TRADING STRATEGY AND SIGNAL GENERATION METHOD

OUR TRADING STRATEGY

- We're implementing a straightforward mean-reversion strategy, which involves setting threshold levels for the Z-score at +2.8 and -2.5. In this strategy, we use the Z-score as an indicator of potential future price movements. When the Z-score rises above +2.8, it signals an expectation that it will revert to the mean in the future. Consequently, we take a short position on the pair, anticipating a decline in prices. Conversely, when the Z-score falls below -2.5, it suggests an expectation that it will rise in the future. In response, we take a long position on the pair, anticipating an increase in prices. This mean-reversion approach leverages the Z-score to make trading decisions based on the likelihood of price reversion to a mean value.

SIGNAL GENERATING METHOD

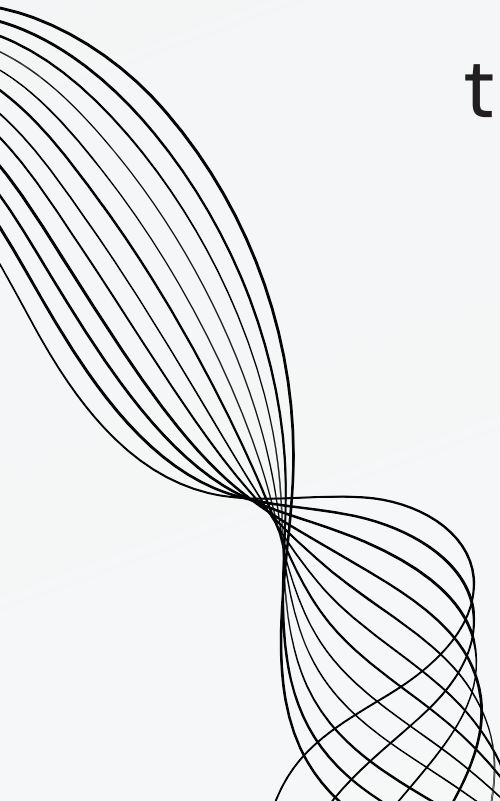
- When our z-scores align with the designated threshold z-score, a signal is triggered at that specific point in time. Subsequently, we take positions in both of the involved stocks and execute trading strategies in accordance with the signal. This approach is based on mean reversion strategies, which rely on the expectation that the increased or decreased z-score will revert back to its mean, guiding our trading decisions.

RISK MANAGEMENT MEASURES



Correlation Analysis

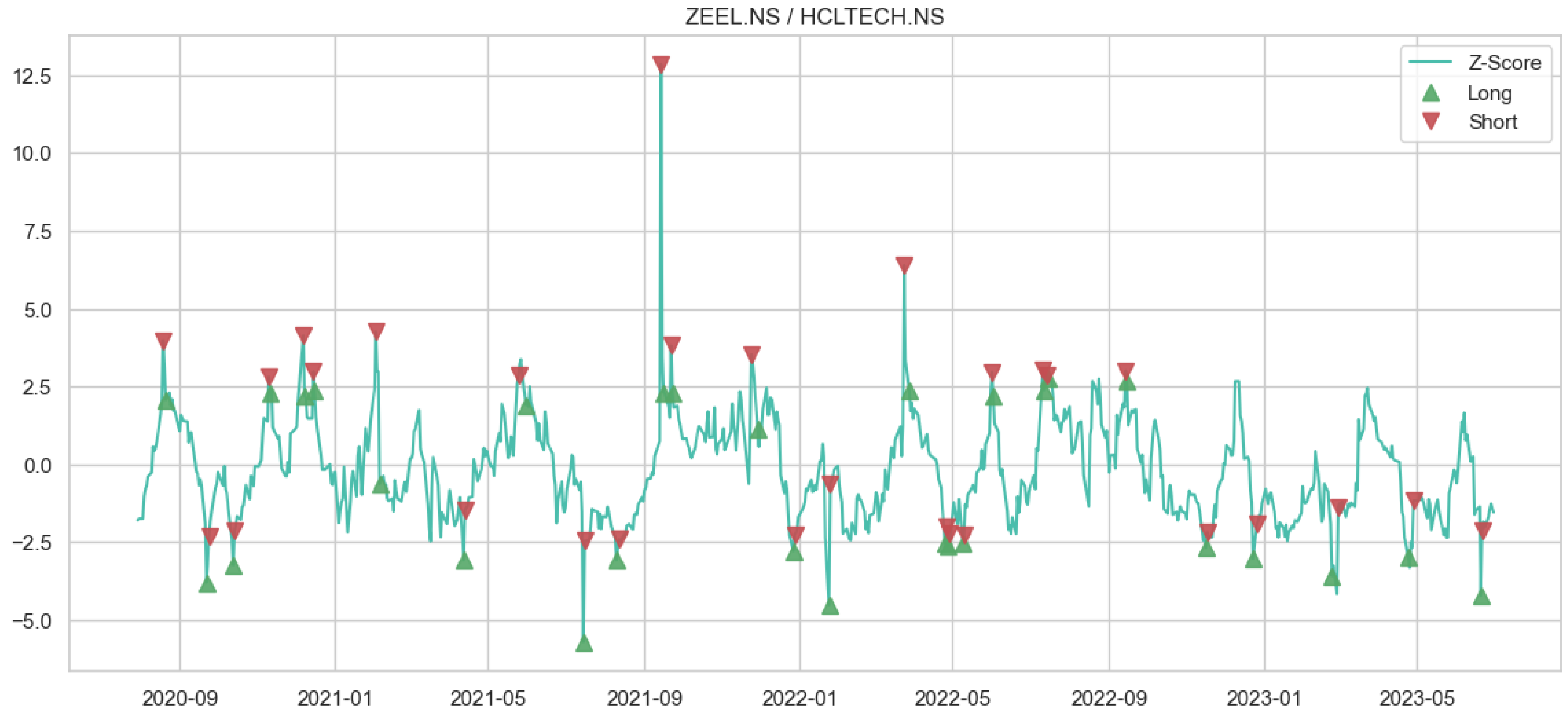
If the correlation between our 2 assets weakens or breaks down it would be best to reevaluate our trade. This can be done by continuously monitoring the Correlation between them.



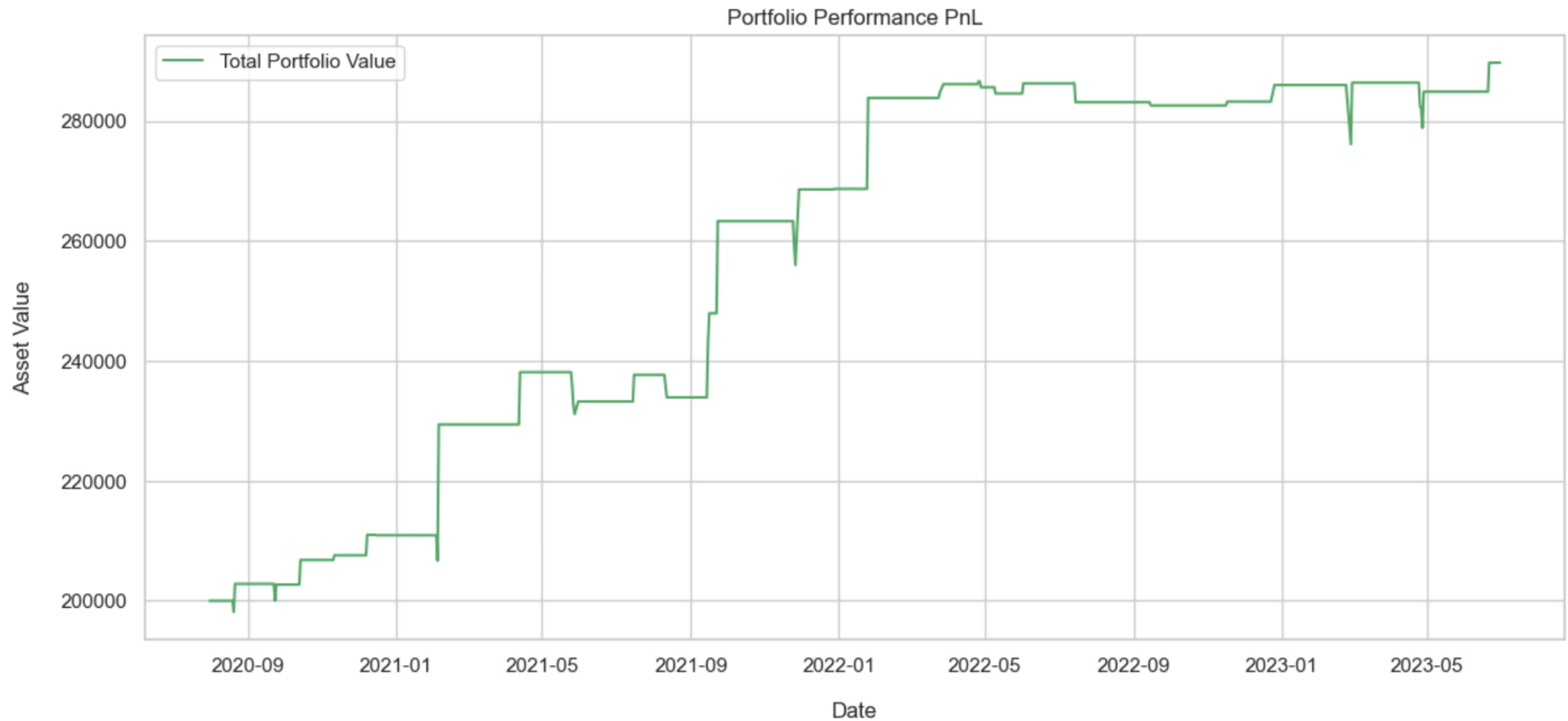
Current Analysis

We focused on finding one pair of stock, but we can extend this to multiple pairs and allocate our capital diversly by giving more weight to less risky assets.

TRADING SIGNALS GENERATED AND POSITION SIZING

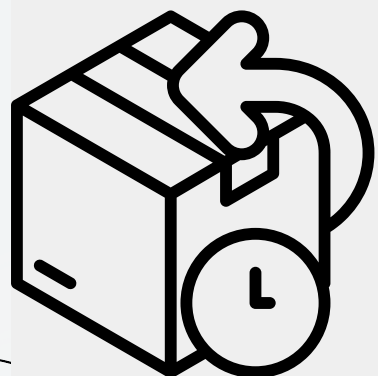


PORTFOLIO PNL



PERFORMANCE METRICS

Cumulative Returns



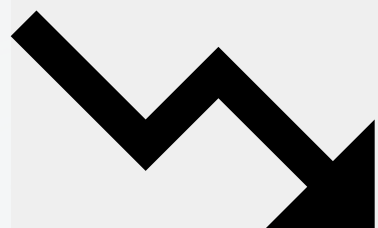
Our cumulative returns are :
44.865%
Which means we made a total
profit of 44,865 Rupees.

Annualised Sharpe Ratio



Our Annualized Sharpe Ratio is :
1.28

Maximum Drawdown



Our Maximum Drawdown is :
-31.60%

Frequency of Trades Placed



Frequency of trades placed over the last
4 years :
2020 - 6
2021 - 18
2022 - 16
2023 - 8

THANK
YOU