MMMBOT
Test Results

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1 Overview

MMMBOT is a long/short trading strategy ("the Strategy") focused on publicly listed Bitcoin miners. The Strategy is inspired by the author's academic research on the Bitcoin mining industry and uses alternative data sources to identify performance-based share mispricings. Each trade occurs within one trading day and involves two legs: a long position in the relatively undervalued miner and a short position in the relatively overvalued miner. Positions are entered at market open and exited simultaneously at either market close or upon a stop-loss trigger. Over the evaluation period from July 31, 2023 to Jan 23, 2026, the Strategy produced a total return of 143%, corresponding to a 43% annualized return (CAGR), with an annualized Sharpe ratio of 1.56 and a Calmar ratio of 2.65.

2 Results

2.1 Performance Summary

Table 1 summarizes Strategy performance over July 31, 2023 to Jan 23, 2026. The evaluation interval contains 622 trading days. The Strategy executed 122 trades (executed days with non-zero return). Of these, 70 trades were profitable and 52 were unprofitable, implying a hit ratio of 57.4%. The maximum drawdown over the period was 16%, and the Calmar ratio (CAGR divided by maximum drawdown) was 2.65.

Table 1: Performance Summary: MMMBOT

Metric	Value
Evaluation start	2023-07-31
Evaluation end	2026-01-23
Trading days (calendar)	622
Trades (executed days with non-zero return)	122
Trades in profit	70
Trades in loss	52
Hit ratio	57.4%
Overall return	143%
Annualized return (CAGR)	43%
Sharpe ratio (annualized)	1.56
Max drawdown	16%
Calmar ratio	2.65

2.2 Distribution of Returns

Figure 1 depicts the distribution of per-trade returns. Negative-return trades appear on the left tail and positive-return trades on the right tail. Table 2 reports distributional statistics for the executed trades. The mean per-trade return is 0.79% and the median is 0.57%, with a standard deviation of 3.52%. The left tail is truncated relative to an unconstrained distribution, consistent with stop-loss implementation on some trades.

Table 2: Trade Return Distribution Summary (Executed Trades Only)

Statistic	Value
Mean	0.79%
Median	0.57%
Std dev	3.52%
Min	-6.61%
Max	10.68%
Skewness	0.55
Excess kurtosis	0.49
Quantile 1%	-6.24%
Quantile 5%	-5.09%
Quantile 50%	0.57%
Quantile 95%	7.38%
Quantile 99%	10.52%

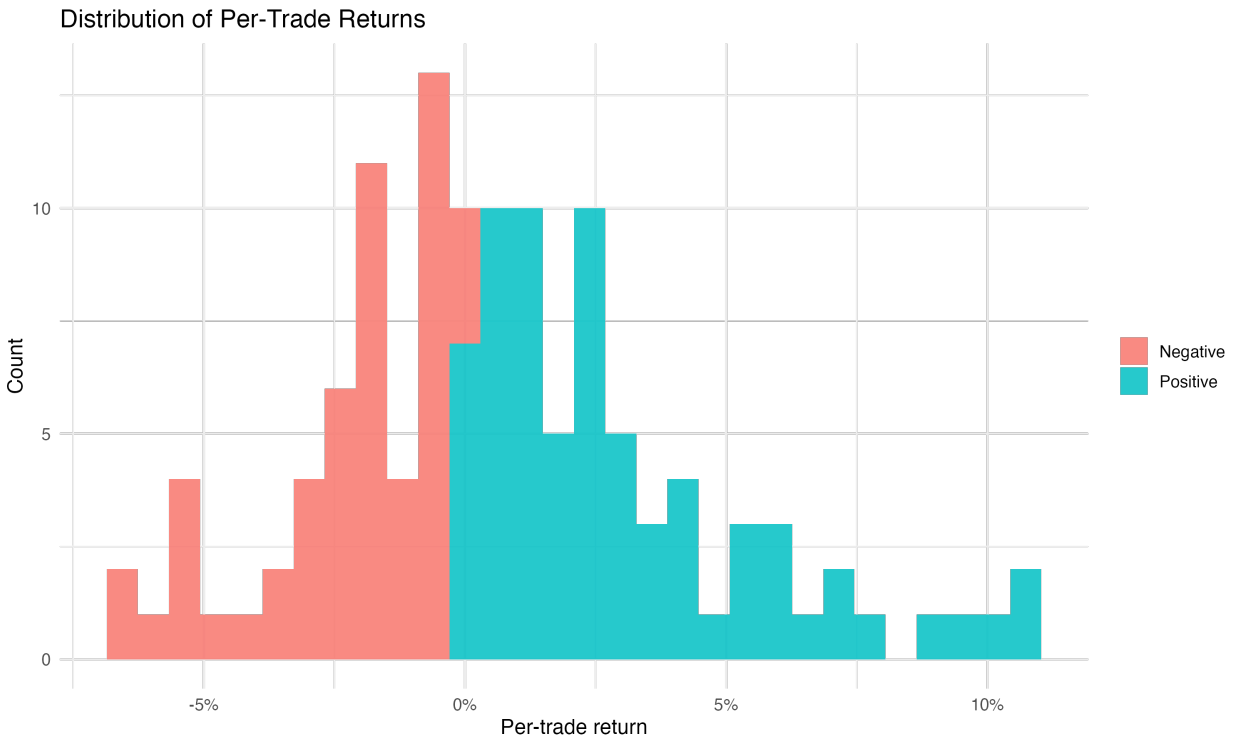

Figure 1: Distribution of per-trade returns.

2.3 Indexed Performance

Figure 2 shows the Strategy equity curve (indexed). The index begins at 100 and evolves by compounding the executed daily trade returns.

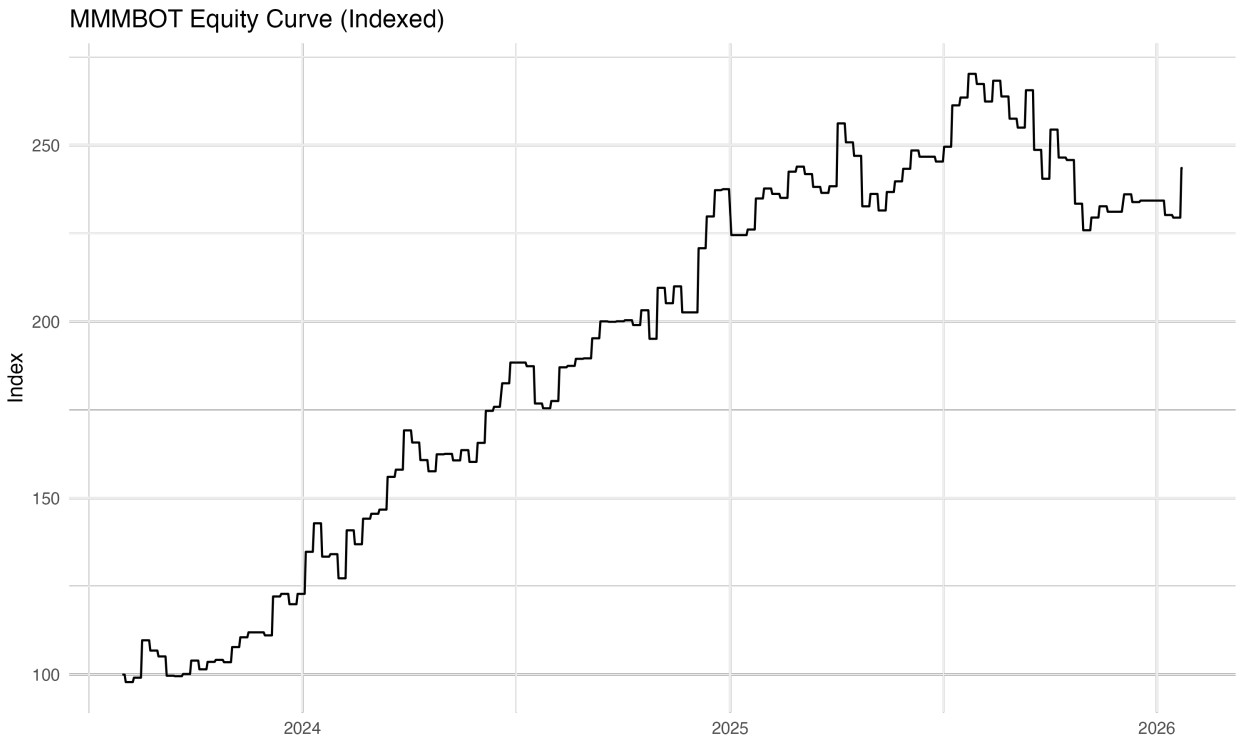

Figure 2: MMMBOT equity curve (indexed).

2.4 Drawdowns

Figure 3 presents the underwater (drawdown) plot. Drawdowns are measured as the percentage decline from the running peak of the equity curve.

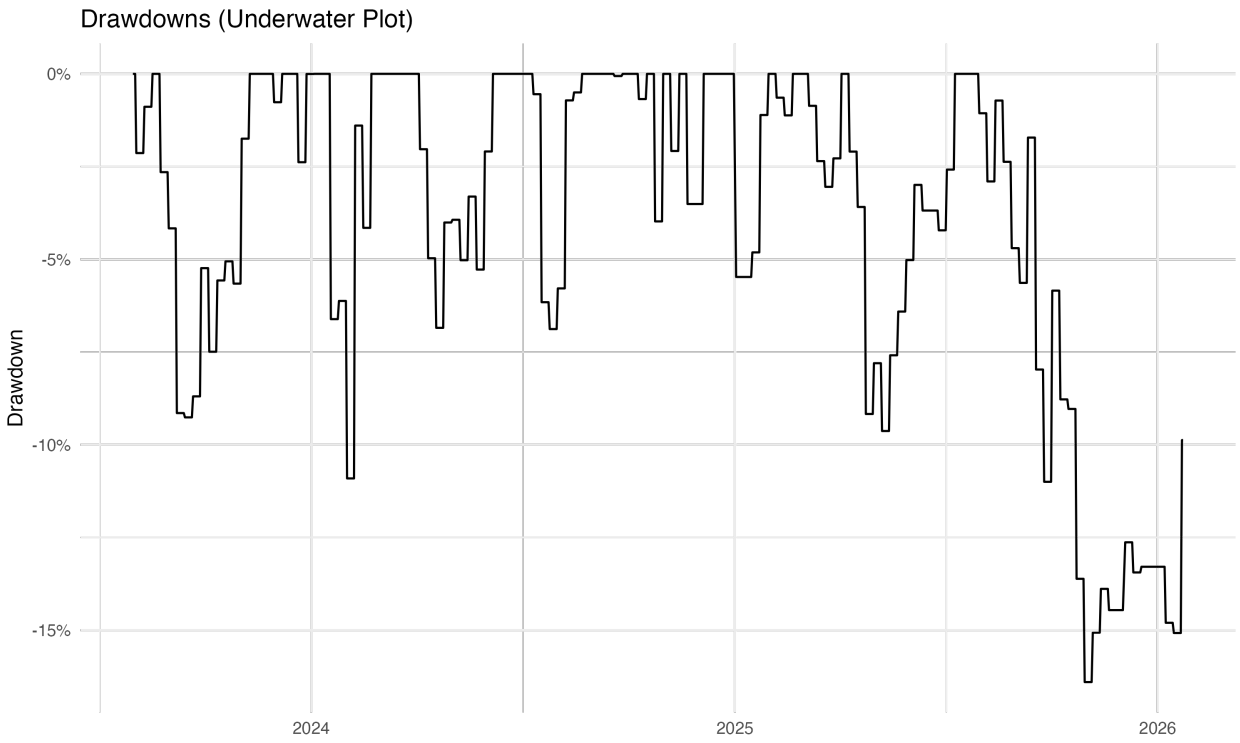

Figure 3: Drawdowns (underwater plot).

2.5 Rolling Risk-Adjusted Performance

Figure 4 reports the rolling Sharpe ratio computed over a 63-trading-day window. This provides a time-varying view of risk-adjusted performance.

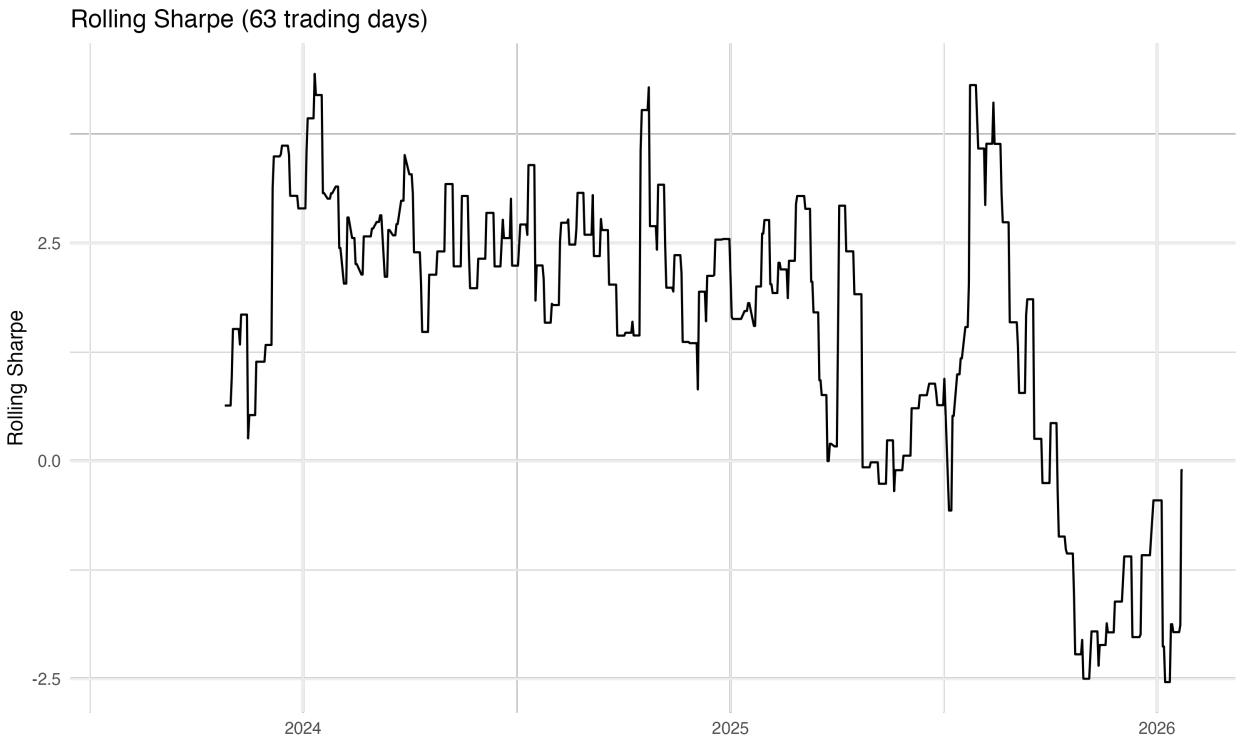

Figure 4: Rolling Sharpe ratio (63 trading days).

2.6 Stop-Loss Implementation

Table 3 summarizes stop-loss usage over executed trades. Across 122 executed trades, 8 trades were stopped out (6.6%). Figure 5 visualizes the monthly stop-out rate.

Table 3: Stop-Loss Summary

Metric	Value
Stop-loss threshold (pair)	-5%
Trade days	122
Stopped out trades	8
Stop-out rate	6.6%

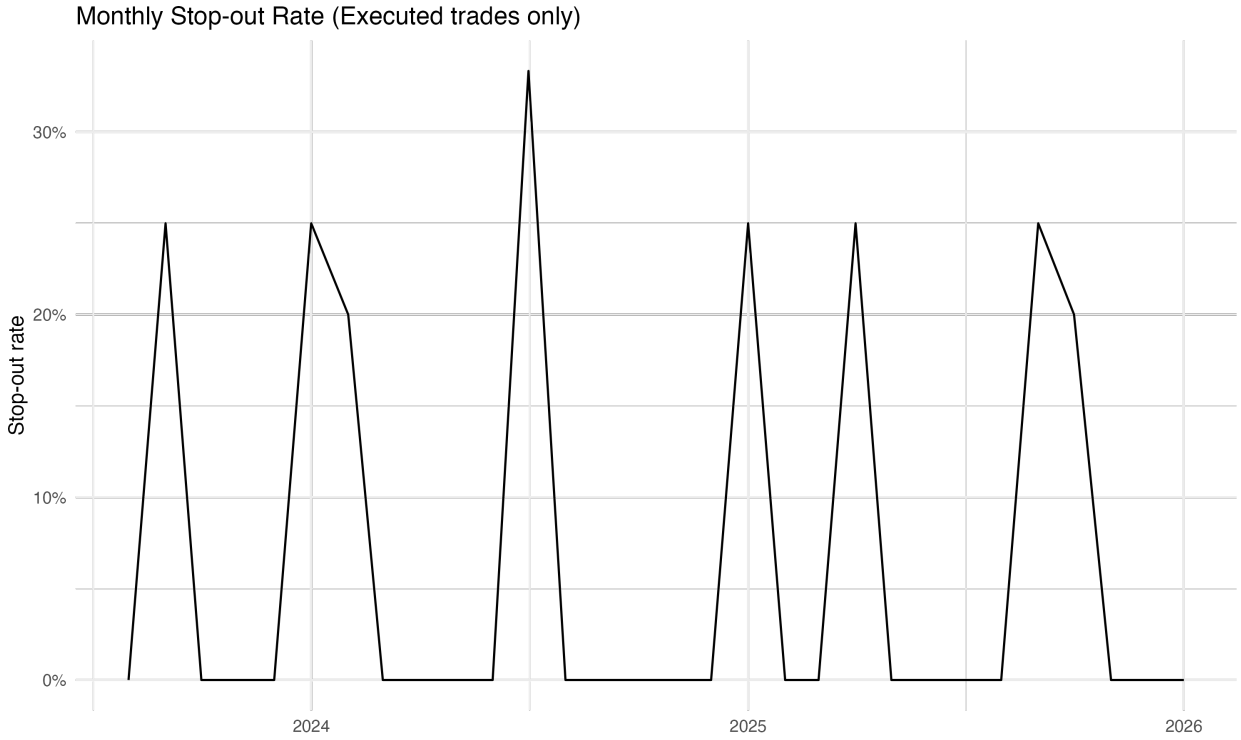

Figure 5: Monthly stop-out rate (executed trades only).

3 Scalability

The main limitation of trading strategies involving publicly-listed Bitcoin miners is that several smaller miners have limited trading volume. This can introduce slippage at larger trade sizes, especially when one leg concentrates in a less liquid name. A practical capacity management approach is to enforce liquidity filters at signal execution time and to substitute into the next-best candidate when the recommended leg fails minimum liquidity criteria. In addition, the Strategy currently trades conservatively (e.g., a subset of weekdays), leaving room for complementary implementations that increase deployable capital while preserving disciplined risk controls.