

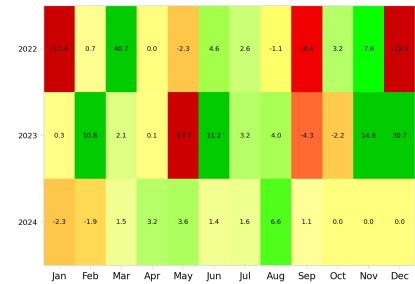
## Strategy Description

Weekly statistical arbitrage strategy founded on PCA mean reversion. PCA analysis is performed on the selected assets over the past 30 trading days and 3 components are retrieved as factors. Assets are individually regressed against these factors and their residuals are taken to compute Z-scores. Before computing the Z-scores, a Kalman filter is applied to reduce noise in the residuals. Additionally, an EGARCH(1,1) model is used to detect the current market regime in terms of volatility. The Z-score threshold is altered using a sigmoid function to account for different regimes. Lastly, weights are attributed proportionally to the Z-scores of assets past said threshold.

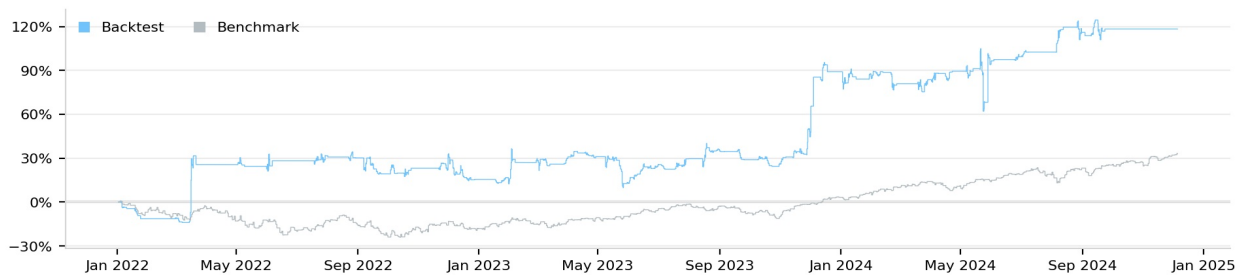
### Key Statistics

Runtime Days	1069	Drawdown	20.9%
Turnover	12%	Probabilistic SR	25%
CAGR	30.5%	Sharpe Ratio	0.7
Capacity (USD)	4.9M	Sortino Ratio	0.8
Trades per Day	0.6	Information Ratio	0.6

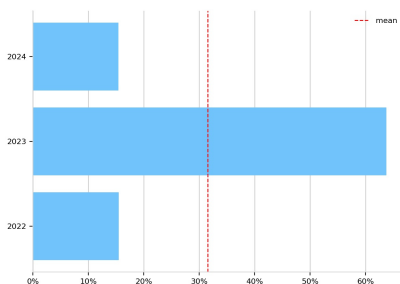
### Monthly Returns



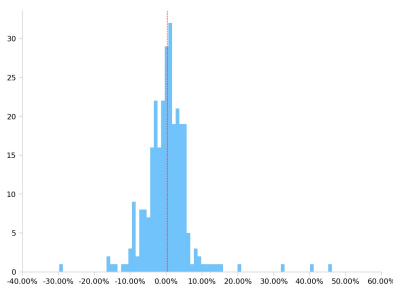
### Cumulative Returns



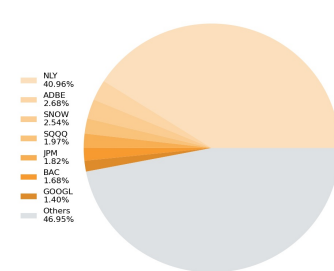
### Annual Returns



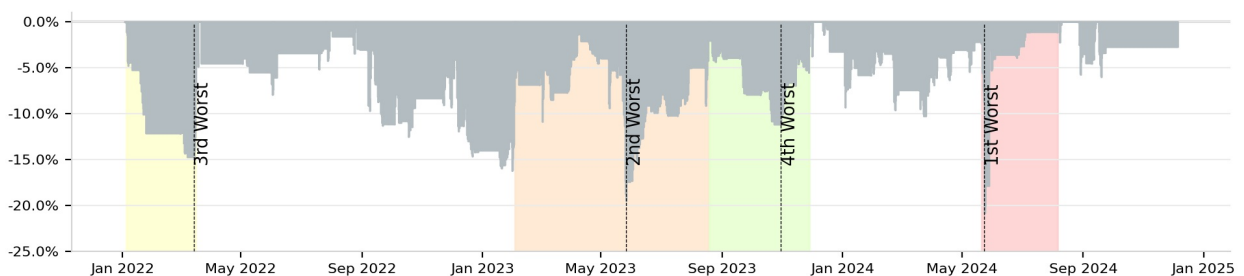
### Returns Per Trade



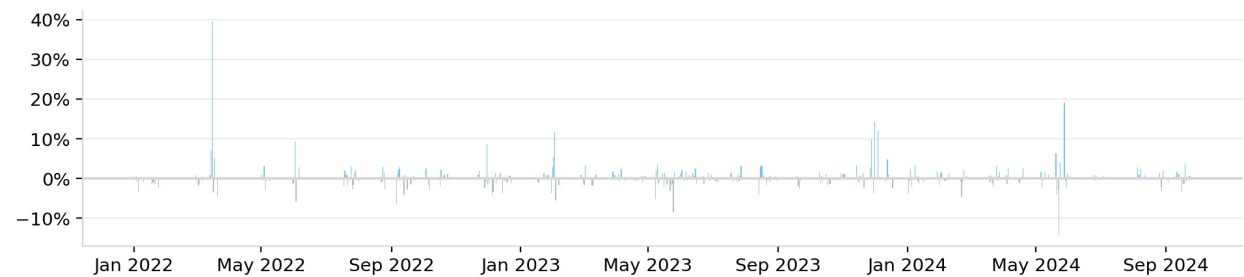
### Asset Allocation



### Drawdown



Daily Returns



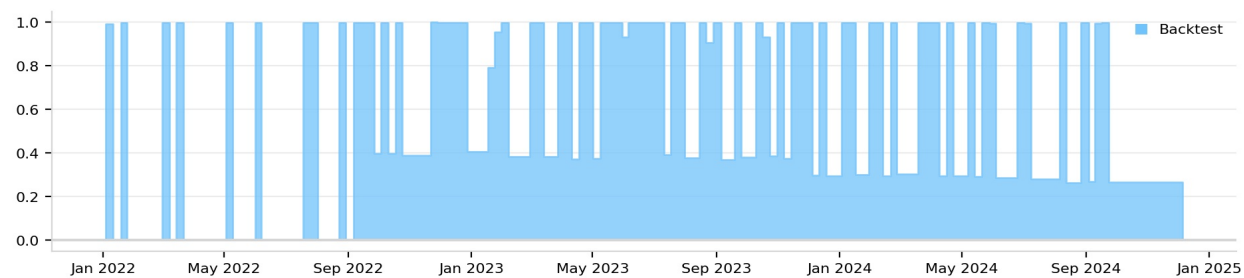
Rolling Portfolio Beta



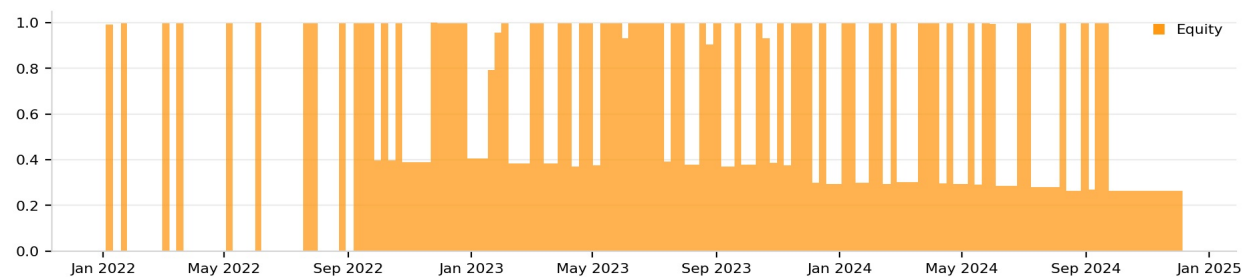
Rolling Sharpe Ratio



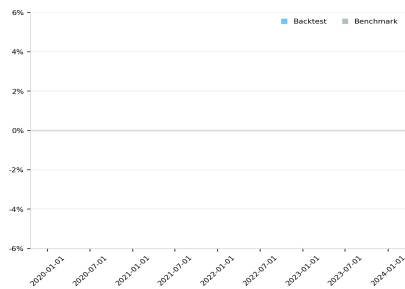
Leverage



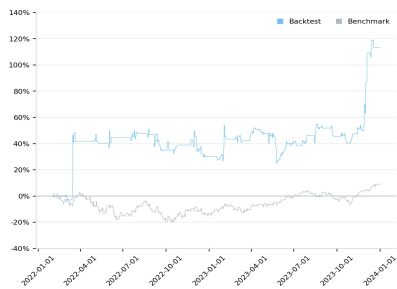
Long-Short Exposure



Post-COVID Run-up 2020-2021



Russia Invades Ukraine 2022-2023



AI Boom 2022-Present

