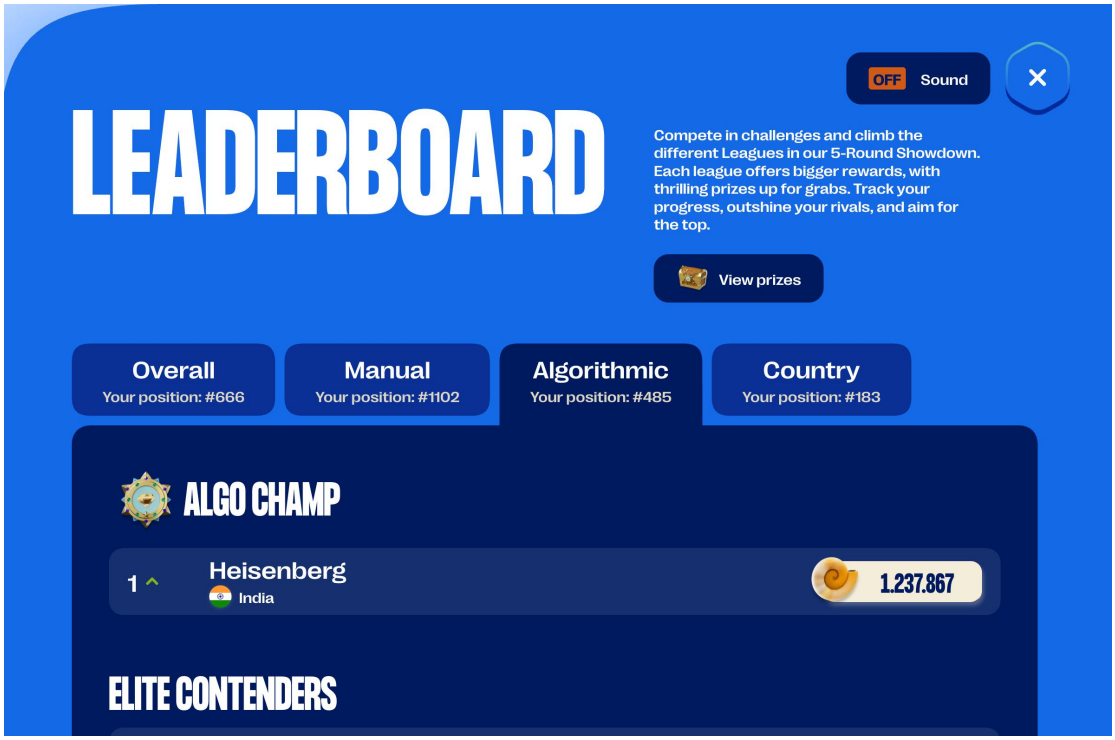
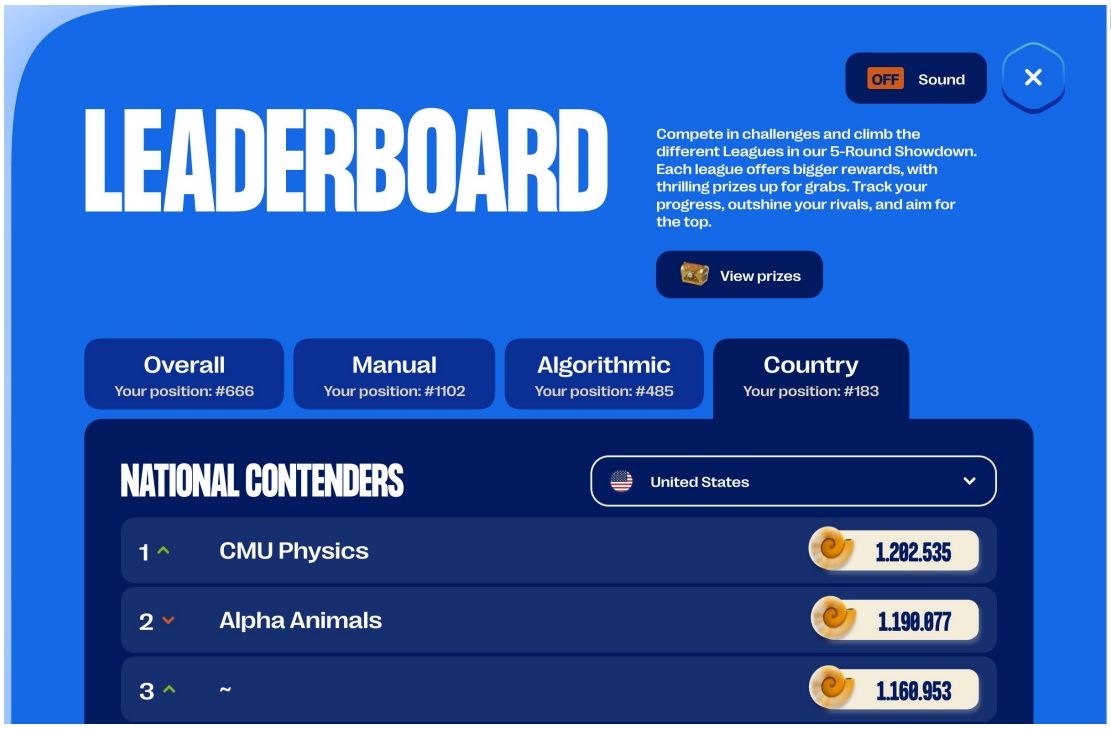
https://prosperity.imc.com/archipelago

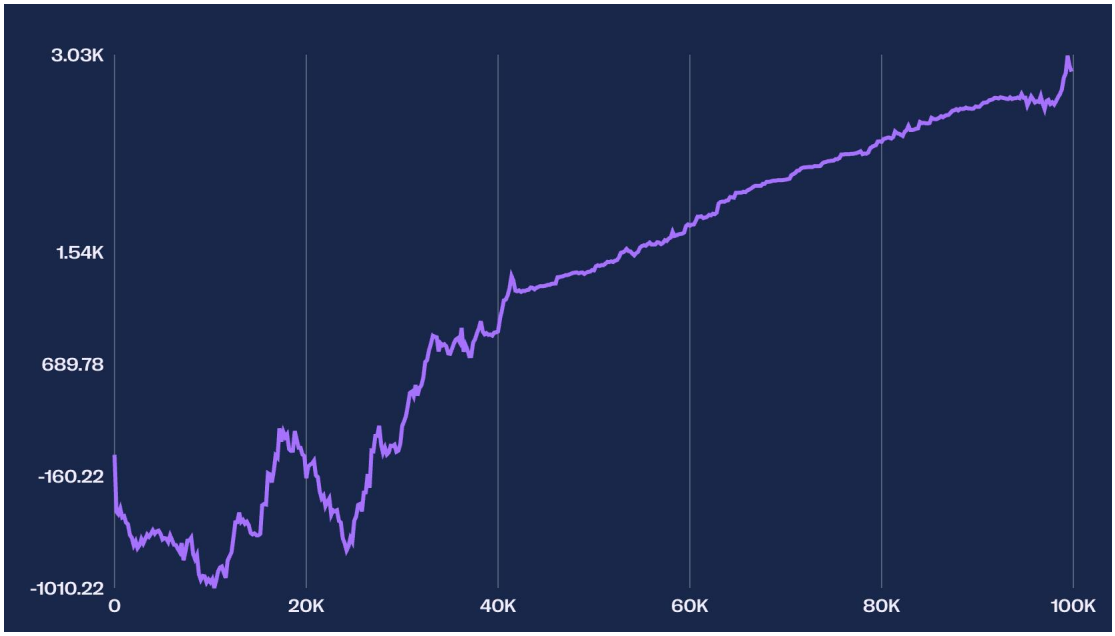





imc
OFF Sound
YOU FINISHED
666TH
SIGMA SQUAD
Position
666TH
Shells
322.128
My Island
Dashboard
Leaderboard
ps://prosperity.imc.com


Day 0
Rainforest Resin
Squid Ink
Kelp
2.05K
10.02K
2.04K
10.01K
2.03K
10.00K
2.03K
9.99K
2.02K
9.98K
1.99K
1.93K
1.89K
1.85K
1.81K
0
200K
400K
600K
800K
1M

Round 1



Algorithm challenge

The first three tradable products are introduced: : `Rainforest Resin` , `Kelp` , and `Squid Ink` . The value of the `Rainforest Resin` has been stable throughout the history of the archipelago, the value of `Kelp` has been going up and down over time, and the value of `Squid Ink` can also swing a bit, but some say there is a pattern to be discovered in its prize progression. All algorithms uploaded in the tutorial round will be processed and generate results instantly, so you can experiment with different programs and strategies.

Position limits for the newly introduced products:

- `RAINFOREST_RESIN` : 50
- `KELP` : 50
- `SQUID_INK` : 50

Position limits for the newly introduced products:

RAINFOREST_RESIN: 50

KELP: 50

Squid Ink price fluctuates very much. Try not to make two-way quotes or positions. Prices tend to return to the recent average. Short-term price abnormalities often rebound. Use the definition between the current price and the recent average as an entry reference.
Mean-reversion
Measure whether the price is in an abnormal range: zscore, Bollinger Bands, standard design

Forecasting of return from "external data"

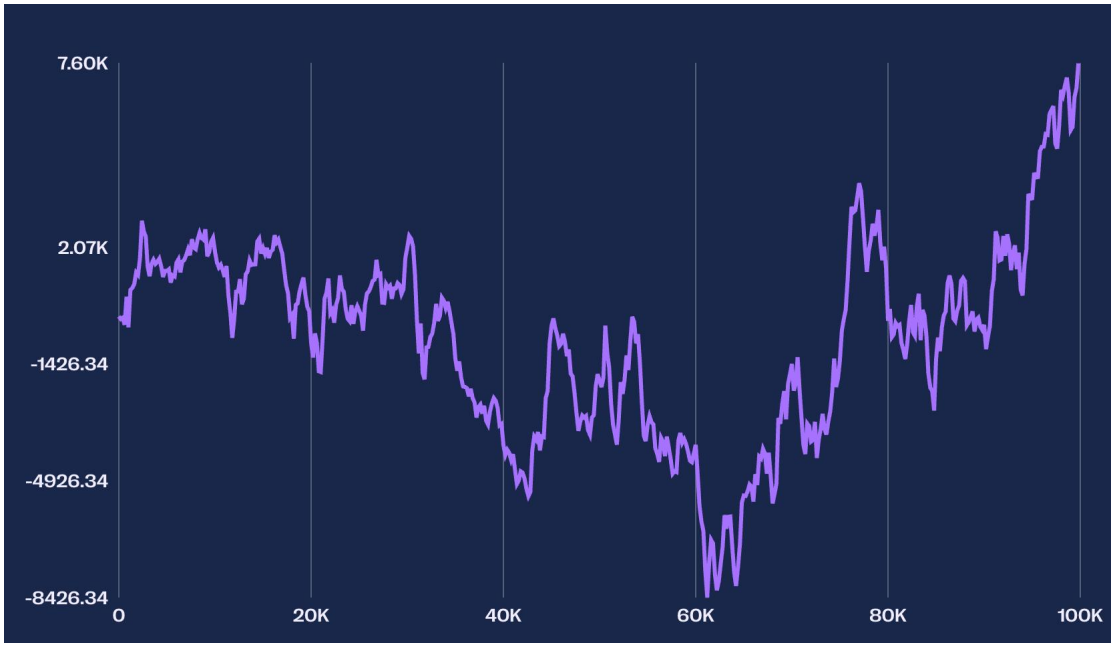
Time point alignment correlation: Pearson/Spearman correlation coefficient of sunlightt → orchidsreturn_t

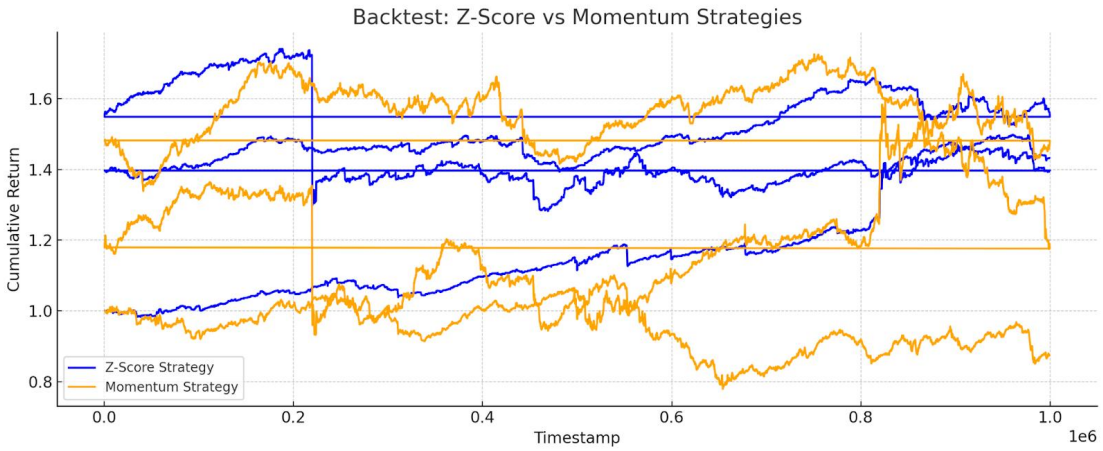
Try to predict with lagged features

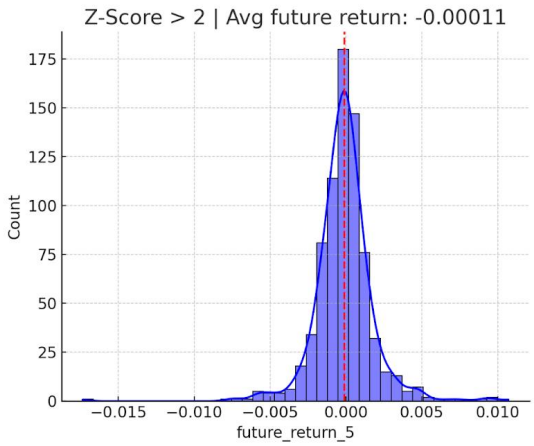
Time window experiments are not effective
No significant effect on second-order features such as rolling/ratio
In the external market, ask price is very low, so you can purchase goods from the external market and sell them at high local prices.

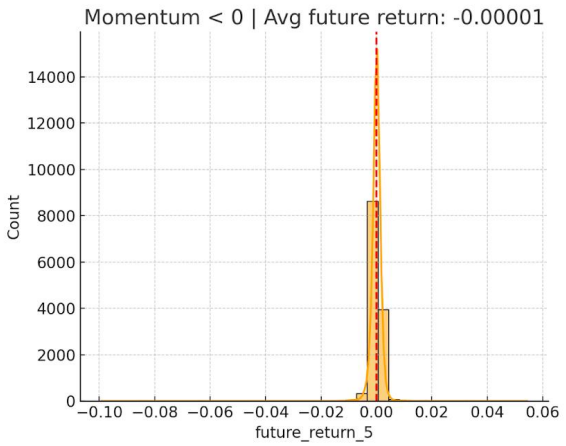
adaptive edge
Use foreign ask price - 2 as sell order price
Low volume → Automatically adjust the price of pending orders (for example, lower the price to foreign ask - 3, try again)

Round 2







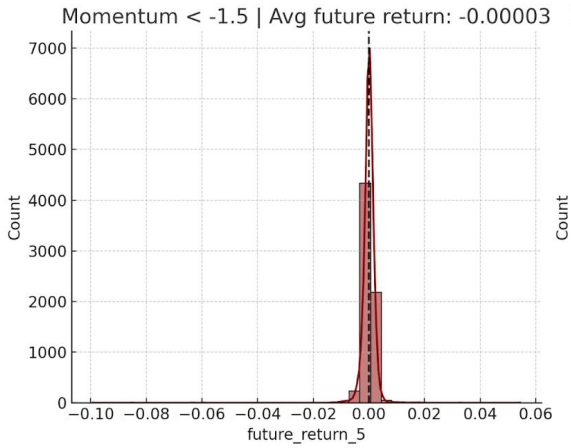


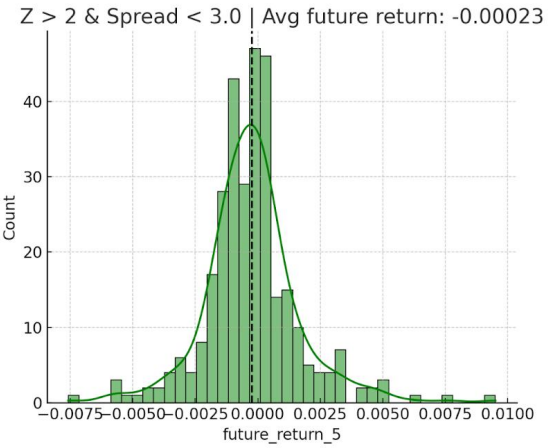
Regression strategy: futurereturn5≈ -0.00011(z-score > 2)

z-score is more likely to return downward when it is extremely high

Reverse momentum: futurereturn5 ≈ -0.00001 (momentum < 0)

No significant rebound tendency/there is a lag or nonlinear effect



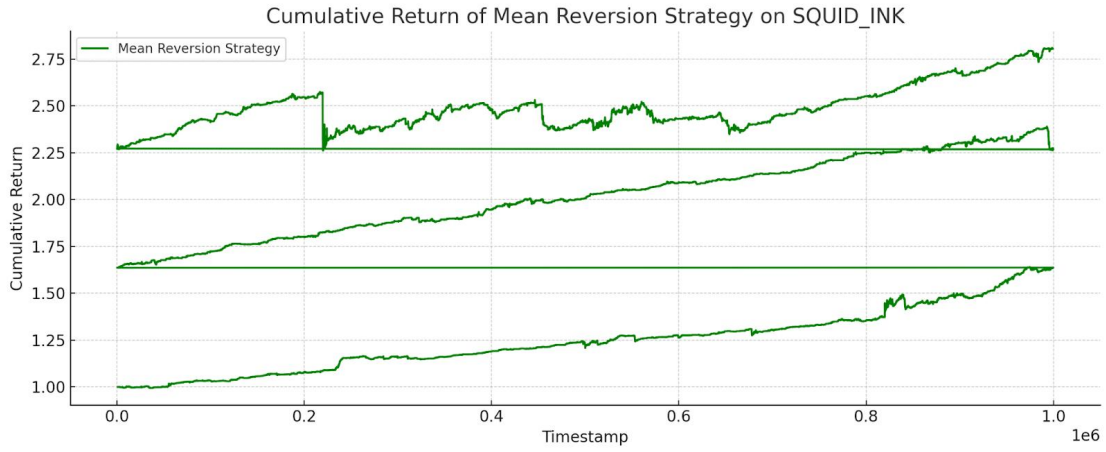


Average future income ≈ -0.00003 (momentum < -1.5)

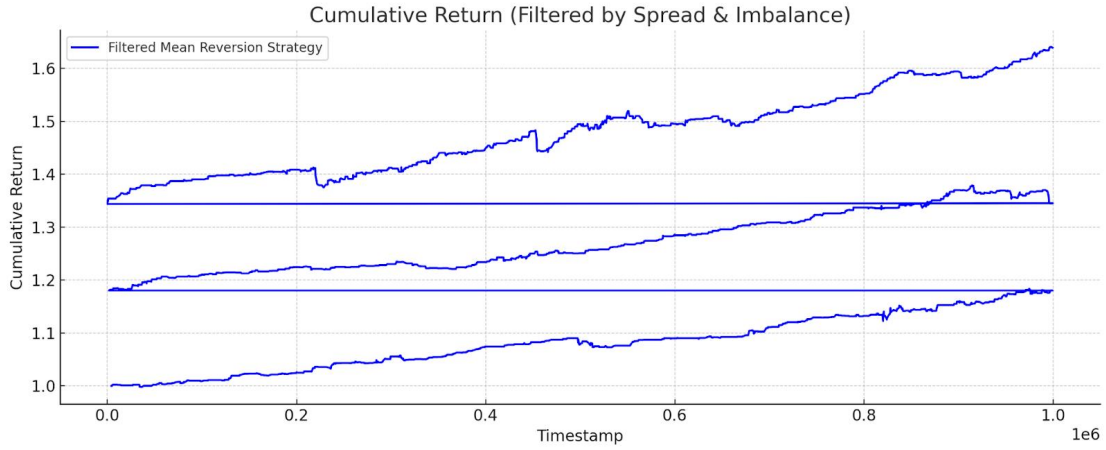
Using momentum alone as a "reverse strategy" is unstable, in conjunction with spread

Futurereturn5 ≈ -0.00023 (z_score > 2 and spread < 3.0)
Strong return signal

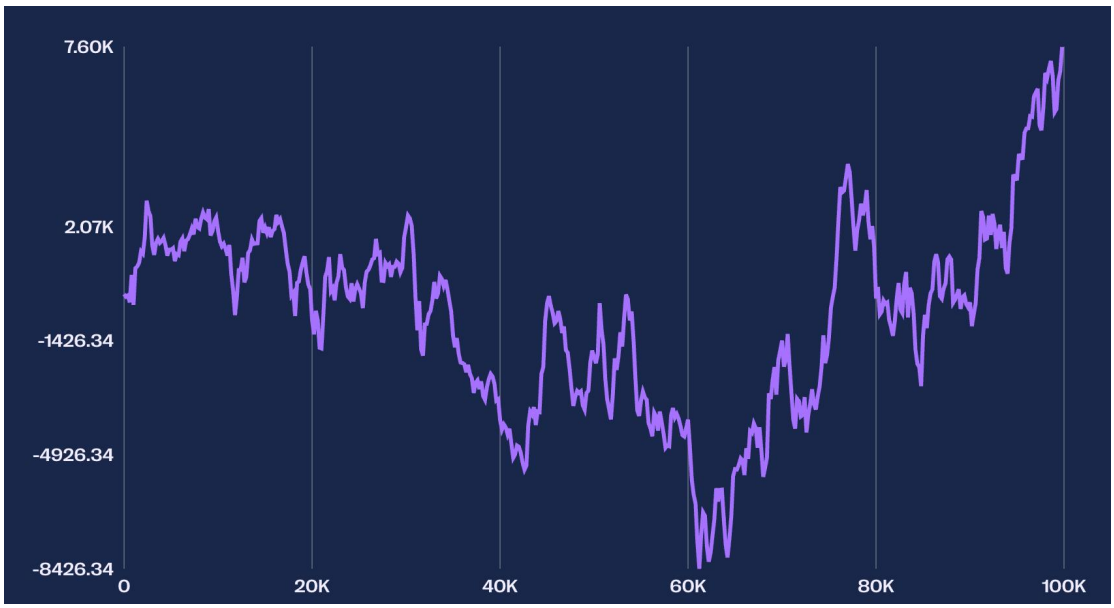
Feature	Relevance to the next 5 steps of return	illustration
return_1	-0.085	Mean reversion
return_5	-0.046	Mean reversion
zscore_1	-0.007	Reversal signal
fwd_return_5	1.000	



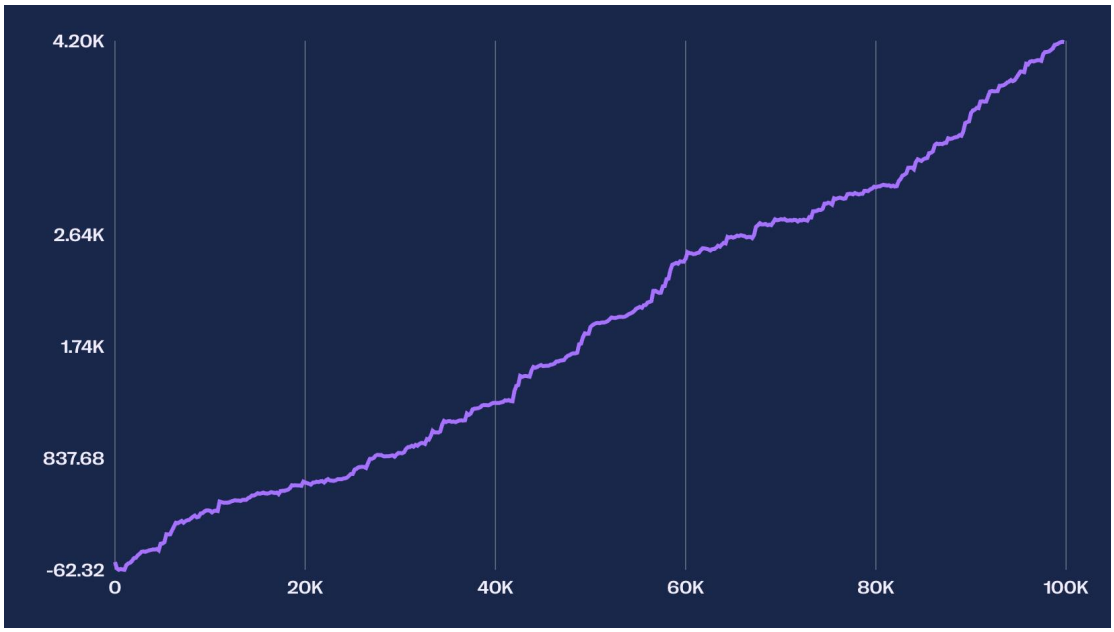
Feature signal filtering if Spread and order book asymmetry are added



Round 3


7.60K
2.07K
-1426.34
-4926.34
-8426.34
0
20K
40K
60K
80K
100K

Round 4


4.20K
2.64K
1.74K
837.68
-62.32
0
20K
40K
60K
80K
100K