

er TIME, lookback=10) — Random Search (Refit by ROC-AUC) — VLO

Generated: 2026-02-27 03:45:57

TRAIN period: \leq 2022-12-31 | TEST period: \geq 2023-01-01

TRAIN size (rows): 2,373 | TEST size (rows): 787

Note: windowing reduces effective samples by 9 per split segment.

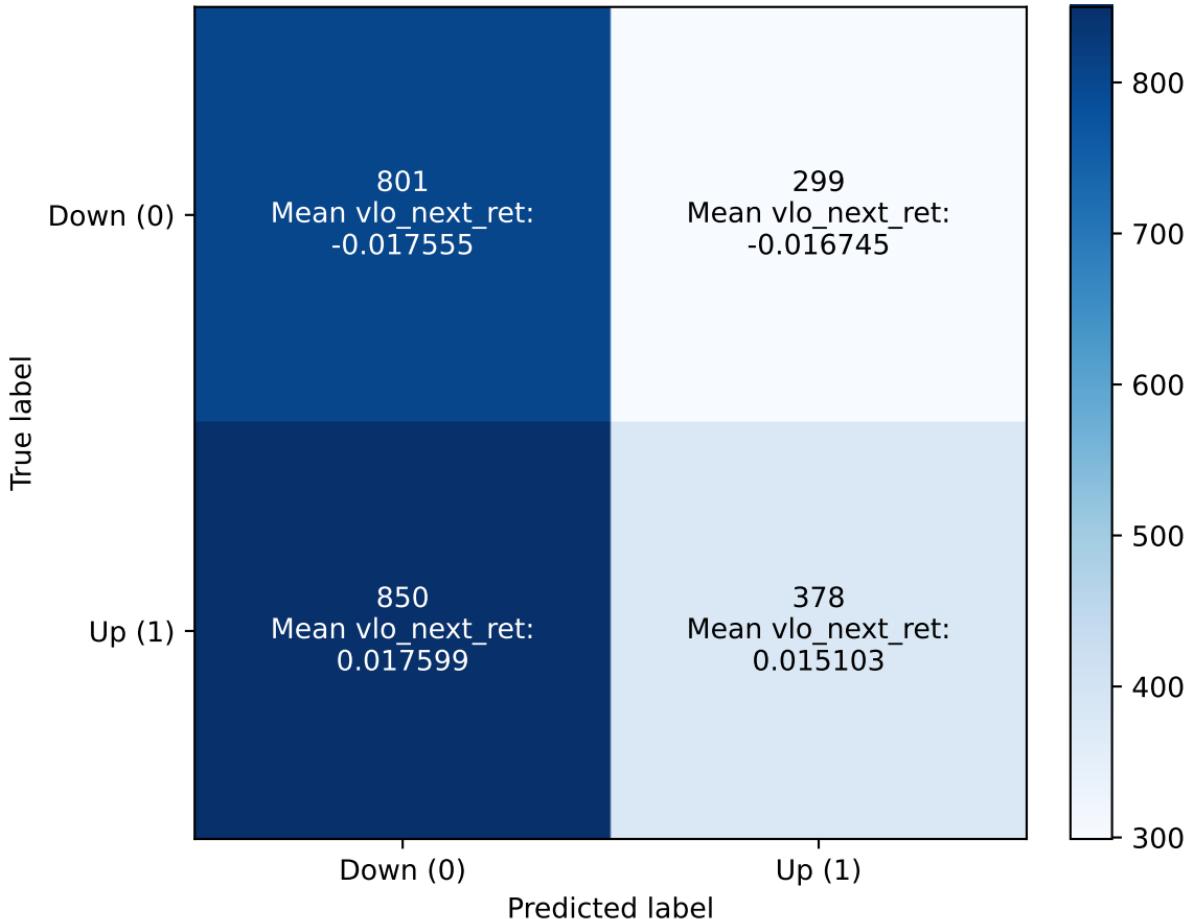
Features — scaled (float + VOL_*): 76 | passthrough: 9

Random Search: n_iter=50, refit='roc_auc'

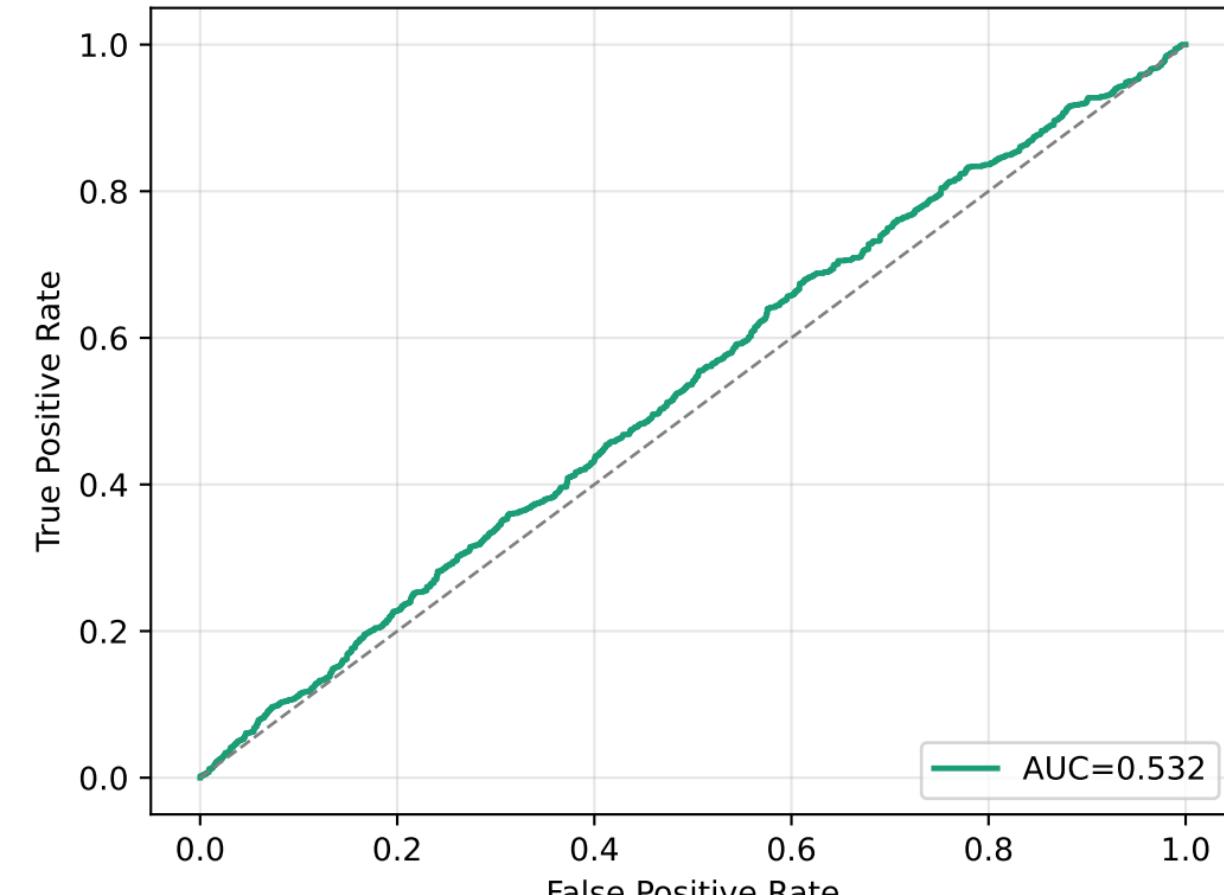
Best CV ROC-AUC: 0.5498

'I2': 0.001, 'kernel_size': 2, 'filters2': 0, 'filters1': 32, 'epochs': 120, 'dropout': 0.3, 'dense_units': 16, 'batch_size': 16, 'learning_rate': 0.001, 'l2': 0.001, 'l1': 0.001, 'activation': 'relu', 'optimizer': 'adam', 'loss': 'binary_crossentropy', 'metrics': 'roc_auc', 'random_state': 42}

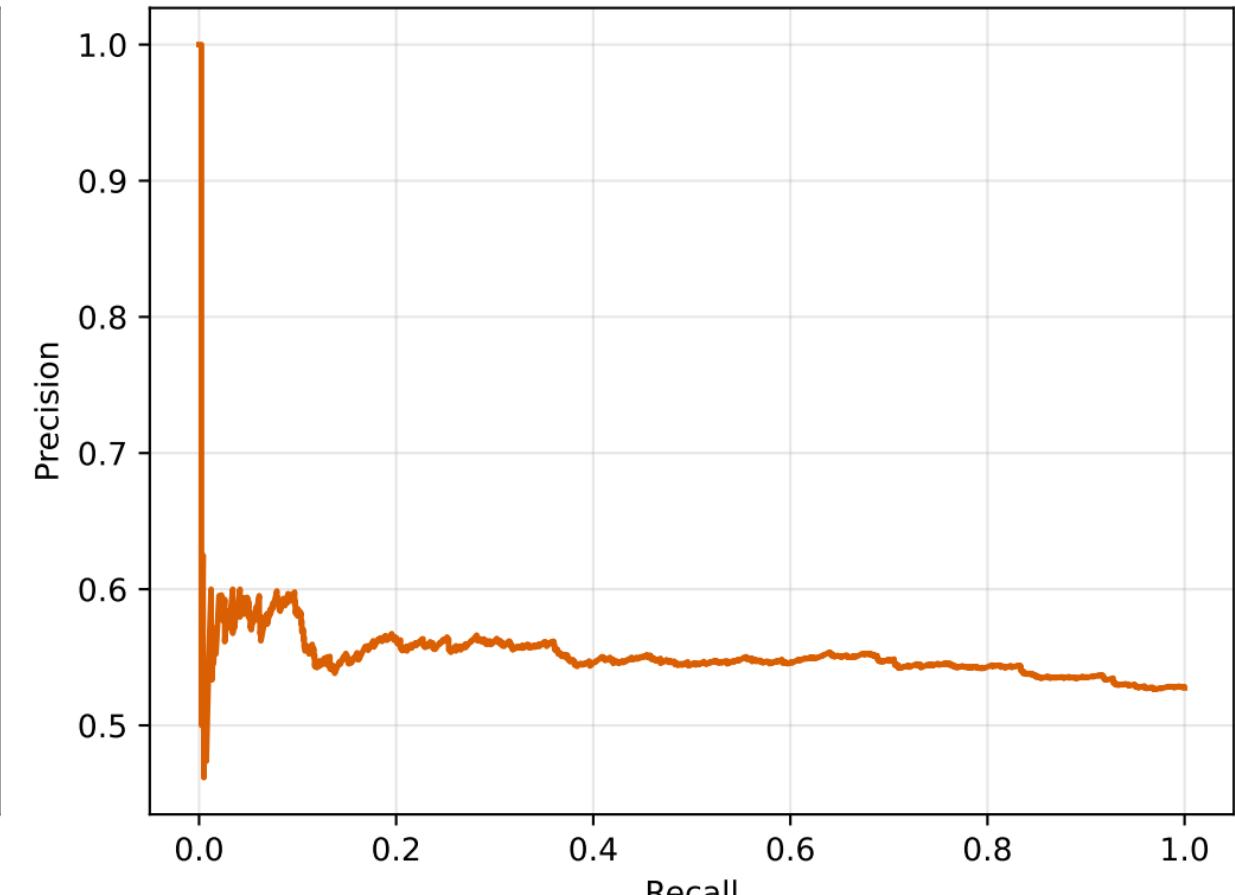
Confusion Matrix — TRAIN (CV OOF, windowed lookback=10)



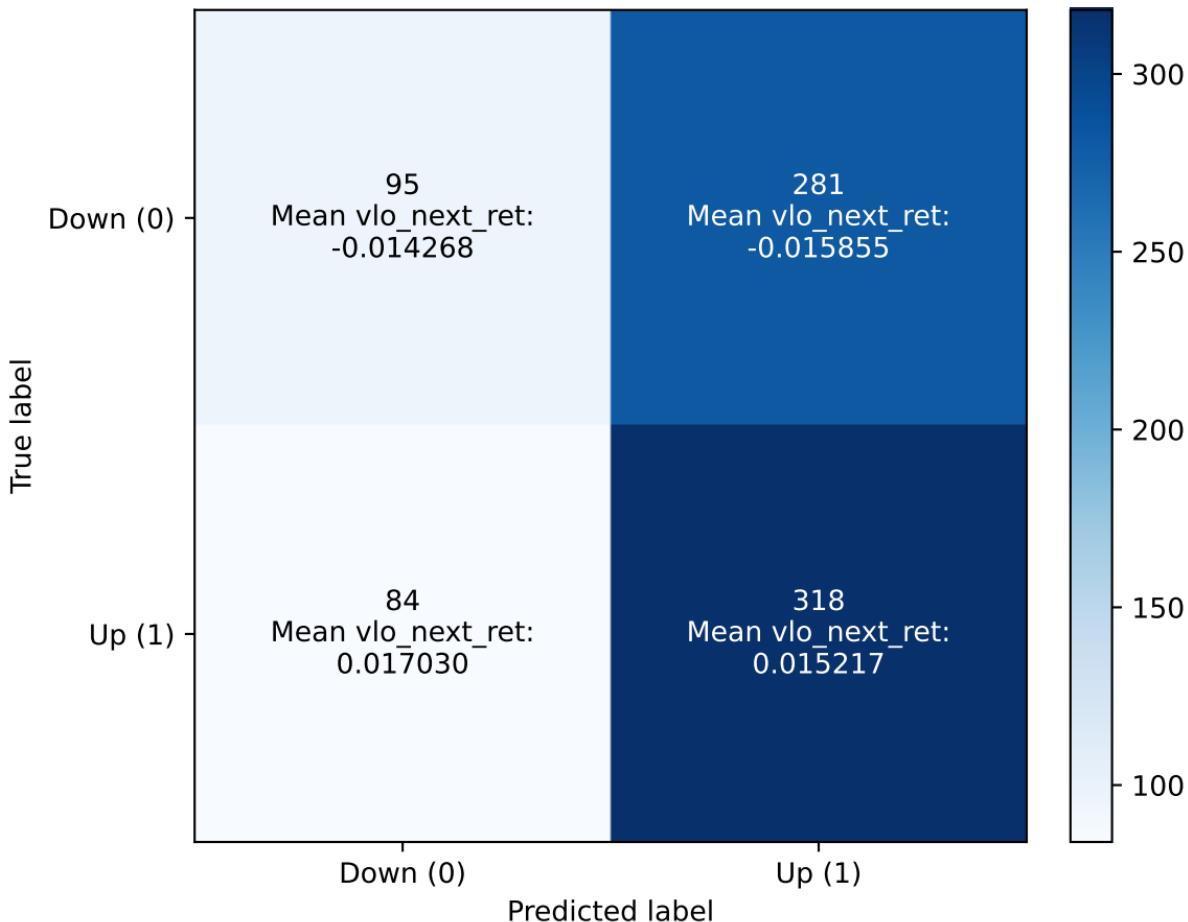
ROC Curve — TRAIN (CV pooled, windowed)



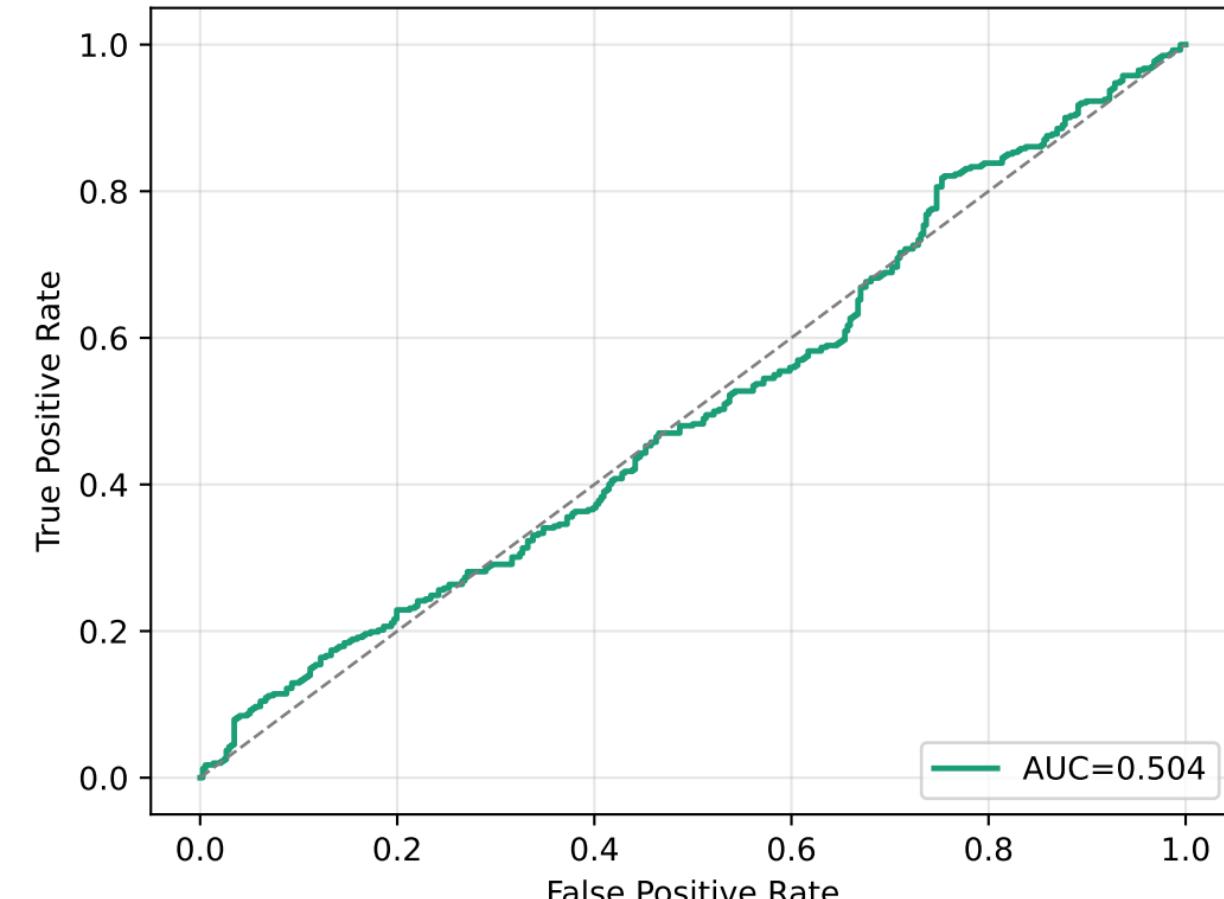
Precision-Recall — TRAIN (CV pooled, windowed)



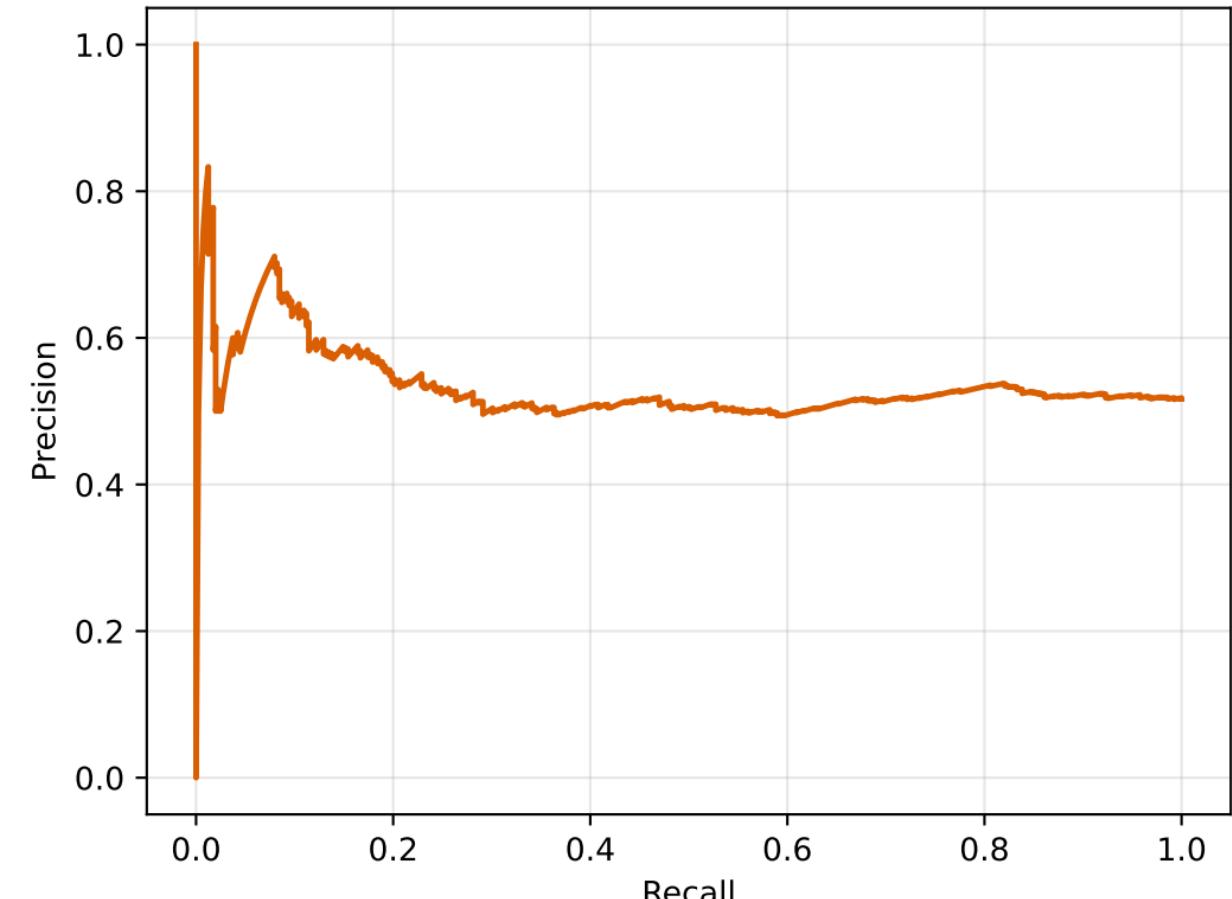
Confusion Matrix — TEST (2023+, windowed lookback=10)



ROC Curve — TEST (2023+, windowed)



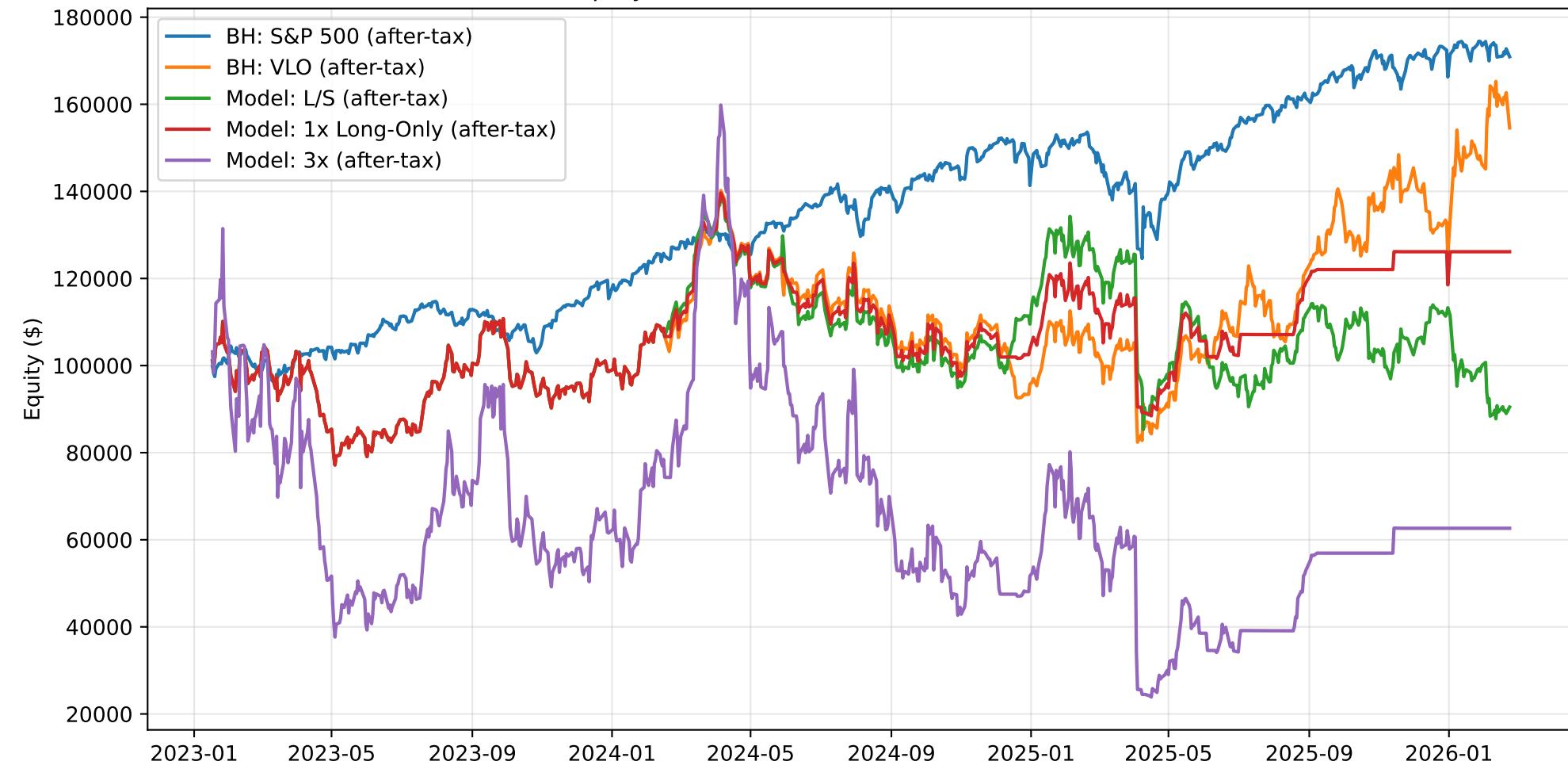
Precision-Recall — TEST (2023+, windowed)



Classification Report — TEST (2023+, windowed)

	precision	recall	f1-score	support
0	0.531	0.253	0.342	376
1	0.531	0.791	0.635	402
accuracy			0.531	778
macro avg	0.531	0.522	0.489	778
weighted avg	0.531	0.531	0.494	778

After-Tax Equity Curves — TEST: 2023 to most recent (windowed)



Annual After-Tax Performance (2023+), incl. Average

	BH: S&P 500 (after-tax)	BH: VLO (after-tax)	Model: L/S (after-tax)	Model: 1x Long-Only (after-tax)	Model: 3x (after-tax)
2023	15.61%	-2.41%	-2.41%	-2.41%	-40.34%
2024	19.21%	-3.45%	10.48%	4.68%	-17.23%
2025	13.32%	30.30%	-1.25%	12.29%	19.64%
2026	-0.32%	16.09%	-18.87%	0.00%	0.00%
Average	11.95%	10.13%	-3.01%	3.64%	-9.48%

Run Metadata & Time-Split Summary

```
Report saved: /mnt/batch/tasks/shared/LS_root/mounts/clusters/dvandyk1/code/Users/dva
Scaler/Normalizer saved: /mnt/batch/tasks/shared/LS_root/mounts/clusters/dvandyk1/cod
Preprocessor saved: /mnt/batch/tasks/shared/LS_root/mounts/clusters/dvandyk1/code/Use
Model saved: /mnt/batch/tasks/shared/LS_root/mounts/clusters/dvandyk1/code/Users/dv

LOOKBACK: 10
TRAIN rows: 2,373 | TEST rows: 787
Effective TRAIN windowed samples: 2,364 (within whole TRAIN; folds differ)
Effective TEST windowed samples: 778
Best params: {'use_batchnorm': True, 'pool_type': 'max', 'patience': 12, 'normalizer'
Best CV ROC-AUC: 0.5498
TEST ROC-AUC: 0.5036 | TEST Acc: 0.5308

Backtest assumptions: tx cost 2.00 bps/side, taxes LT 0.20, ST 0.37
```