

VecViz VIX & Rates 5d Fwd Signal Report



2026-07-25

NOT INVESTMENT ADVICE OR RECOMMENDATIONS. SEE VECVIZ'S TERMS AND CONDITIONS FOR DETAIL AND RELATED DISCLOSURES.

We present current 5d directional signals for the VIX and select treasury yields, and their associated out-of-sample performance, below. The signals are based on Random Forest machine learning models of VecViz model inputs and outputs since 2/1/2022. An All-Tickers RF is fit on the 2022-01-31 → 2024-04-30 in-sample window and the top 16 features are selected from a 168-column universe (per-day mean, cross-ticker dispersion, and the 3-day MA / 10-day MA ratio of each base column compete on equal footing). The **All-Tickers walk-forward** refits a Random Forest every 6 months on the entire VecViz ticker universe (per-day means and cross-ticker dispersion); the **Winner-Sector walk-forward**, at each 6-month boundary, runs a sector tournament and trains its next-window model on the winner sector's tickers only. Both walk-forwards are locked to the 16 selected features (the per-target list is in the appendix). See the target detail sections for the exact numeric definitions of "Flat", etc. Note that "Flat" for yields is typically a +/- 5 to 10bp range.

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Current 5d Forward Forecasts

Target	Latest Date	Level	All-Tickers	Winner Sector	Winner Pred.	Combined
VIX	2026-07-24	18.58	Lower	Metals Ind.	Lower	Lower
USTY_2yr	2026-07-24	4.34	Higher	Cons. Disc	Flat	Higher
USTY_10yr	2026-07-24	4.68	Flat	Healthcare	Flat	Flat

Performance Since Start of Test Period on 4/30/2024

Target	All-Tick Acc	Winner Acc	Combined Acc	All-Tick DirAcc	Winner DirAcc	Combined DirAcc
VIX	43.58%	41.77%	42.13%	64.84%	60.50%	66.55%
USTY_2yr	32.73%	38.34%	40.14%	46.77%	70.59%	66.28%
USTY_10yr	35.62%	38.88%	41.77%	51.92%	69.63%	62.75%



VIX

Tercile Bands for VIX (fold trained through 2026-07-16)

Tercile	5-Day Forward Change (Δ)
Lower (T0)	$-22.2100 < \Delta < -0.9700$
Flat (T1)	$-0.9700 < \Delta < +0.6600$
Higher (T2)	$+0.6600 < \Delta < +30.5600$

Latest Signals

- Most recent ModelDate: 2026-07-24
- VIX level on that date: 18.5800
- All-Ticker prediction: Lower (T0)
- Current Winner Sector: Metals Ind.
- Winner-Sector prediction: Lower (T0)
- Combined (All x Winner) prediction: Lower (T0)

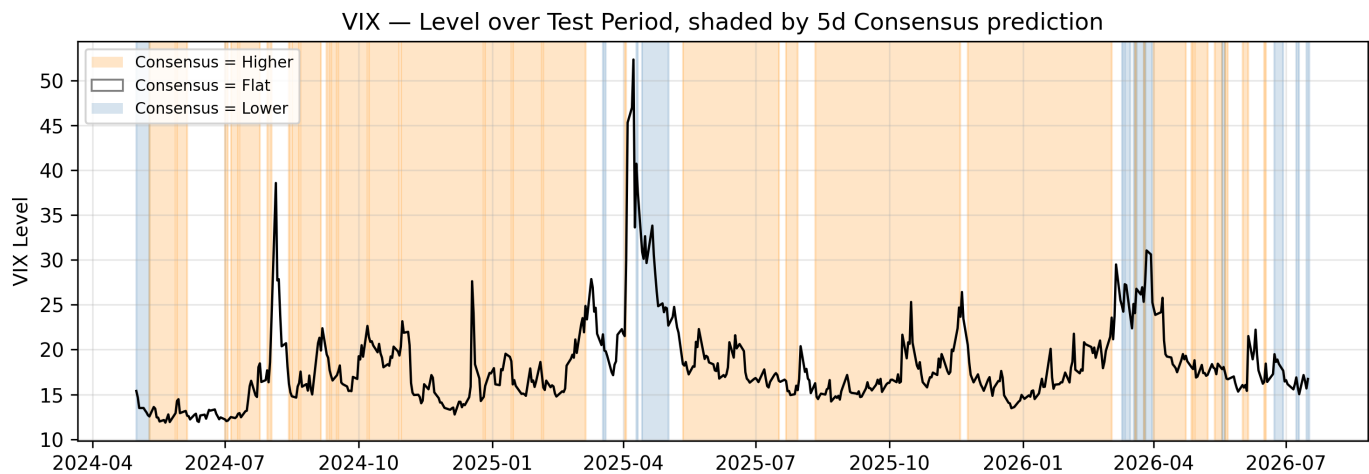


Figure 1: VIX — daily level over the test period; shading reflects each ModelDate's Combined consensus prediction (orange = Higher, no shade = Flat, blue = Lower).

Winner-Sector History (per 6-month walk-forward window)

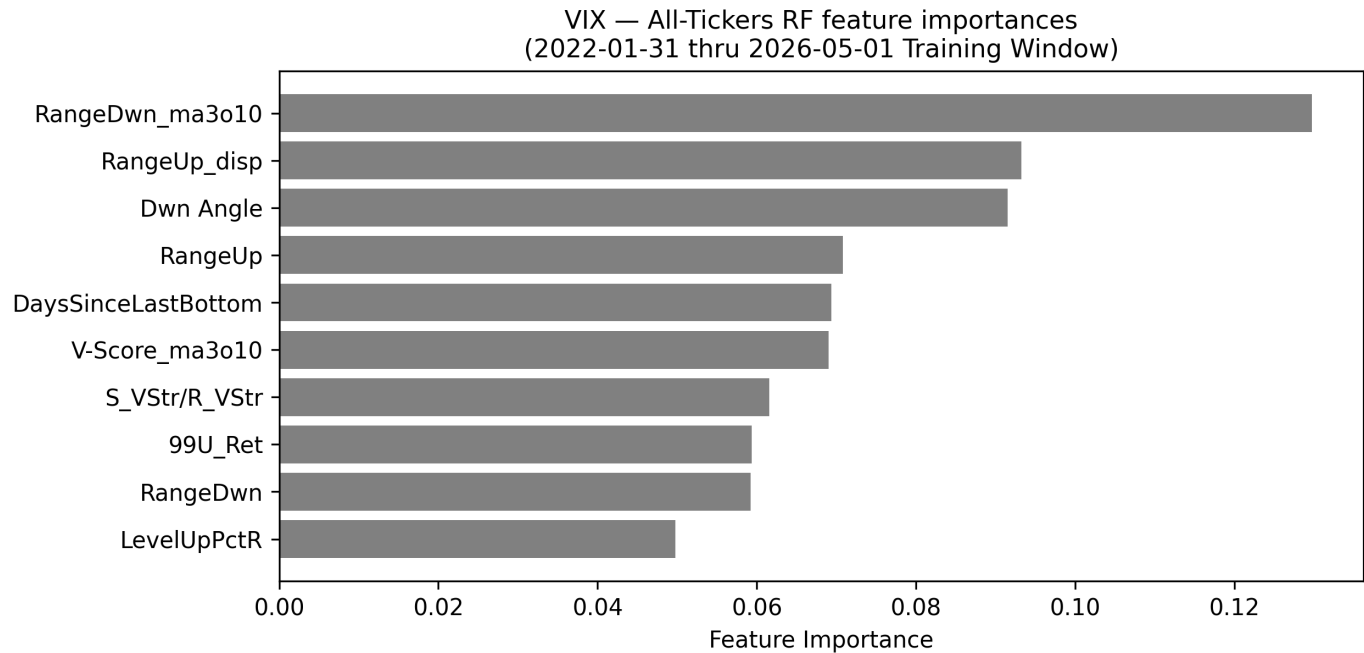
	Window Start	Window End	Winner Sector	Pool Size
0	2024-05-01	2024-10-31	Small Cap	83862
1	2024-11-01	2025-04-30	Mag7	102514
2	2025-05-01	2025-10-31	Banks	120131
3	2025-11-01	2026-04-30	Healthcare	138466
4	2026-05-01	2026-07-24	Metals Ind.	155993

Winner-Sector Tickers — Metals Ind. (9 tickers)

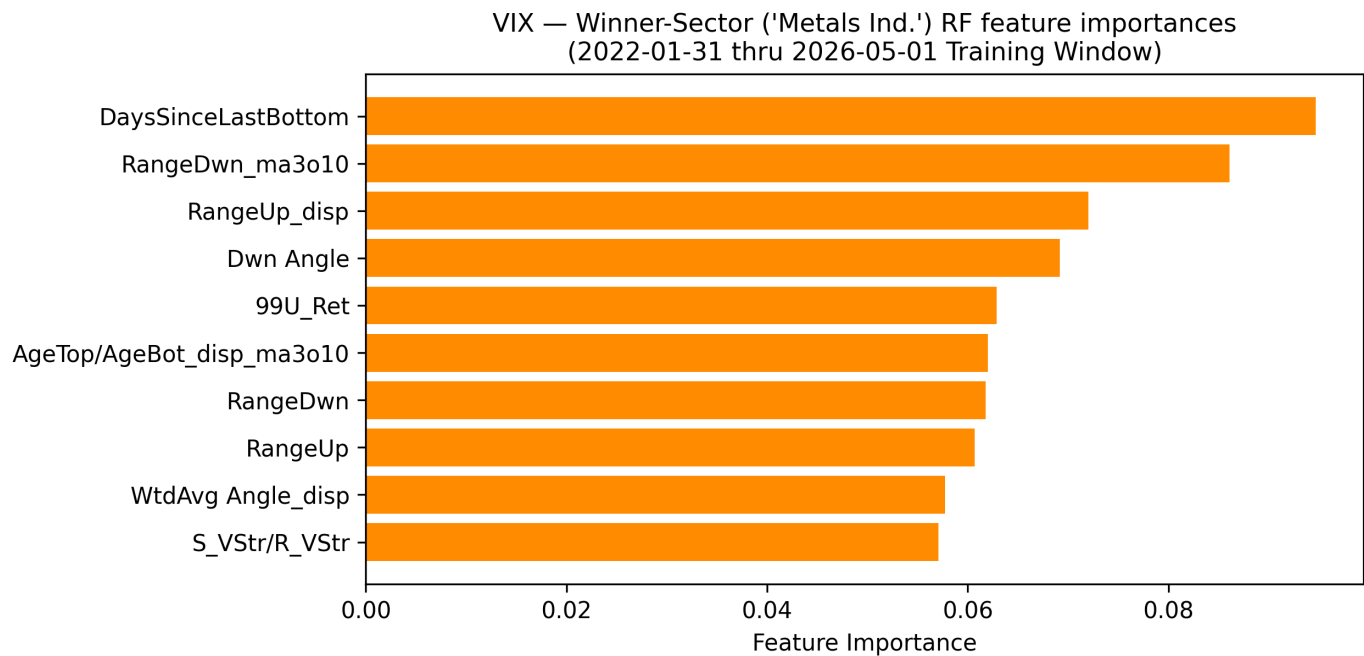
AA, BHP, CLF, CSTM, FCX, FSUGY, KALU, MOS, RIO

Top Features — models used for prediction on 2026-07-24

All-Tickers model



Winner-Sector model — Metals Ind.



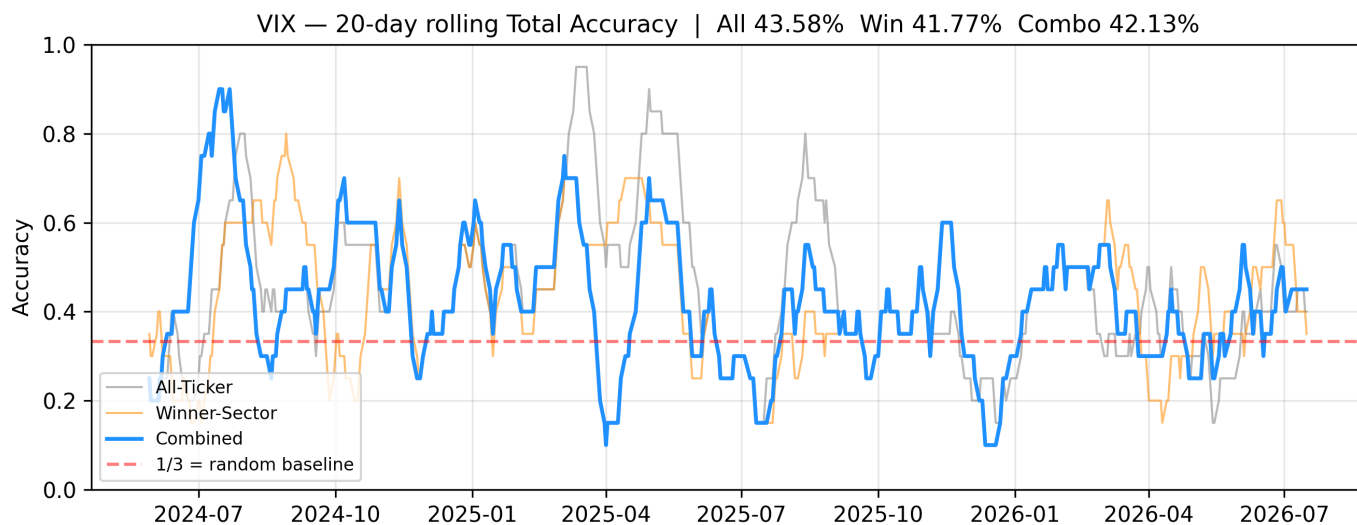


Figure 2: 20-day rolling 5d Forward Total Accuracy (exact Higher / Flat / Lower tercile match) for All-Ticker, Winner-Sector, and Combined classifiers.

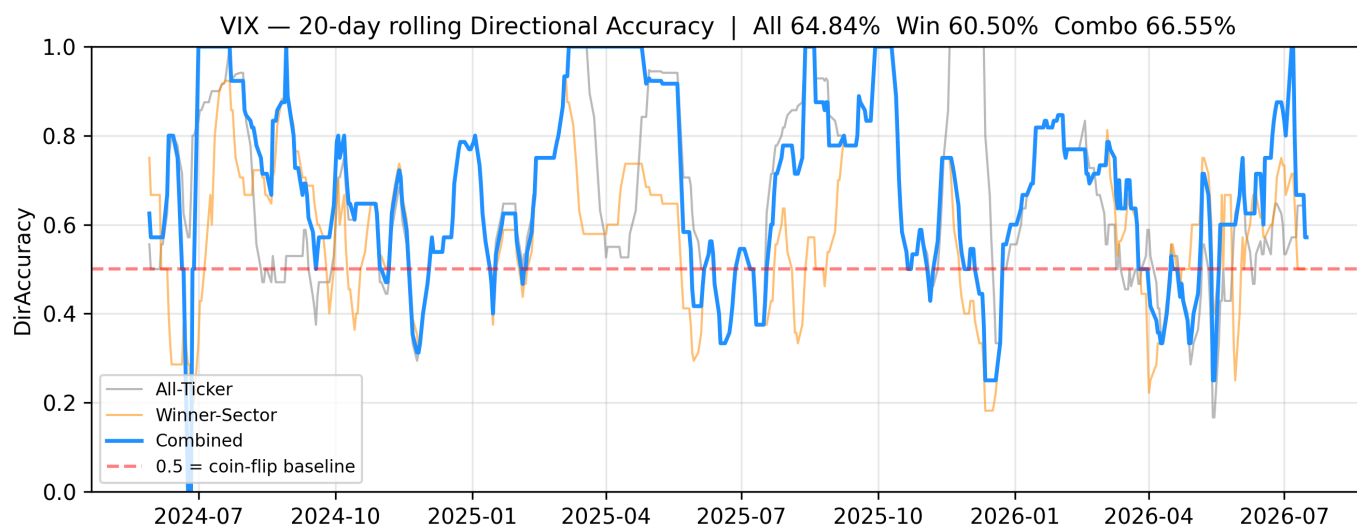


Figure 3: 20-day rolling 5d Forward Directional Accuracy (non-Flat predictions and outcomes) for All-Ticker, Winner-Sector, and Combined classifiers.

USTY_2yr

Tercile Bands for USTY_2yr (fold trained through 2026-07-16)

Tercile	5-Day Forward Change (Δ)
Lower (T0)	$-1.1200 < \Delta < -0.0400$
Flat (T1)	$-0.0400 < \Delta < +0.0700$
Higher (T2)	$+0.0700 < \Delta < +0.7000$

Latest Signals

- Most recent ModelDate: 2026-07-24
- USTY_2yr level on that date: 4.3400
- All-Ticker prediction: Higher (T2)
- Current Winner Sector: Cons. Disc
- Winner-Sector prediction: Flat (T1)
- Combined (All x Winner) prediction: Higher (T2)

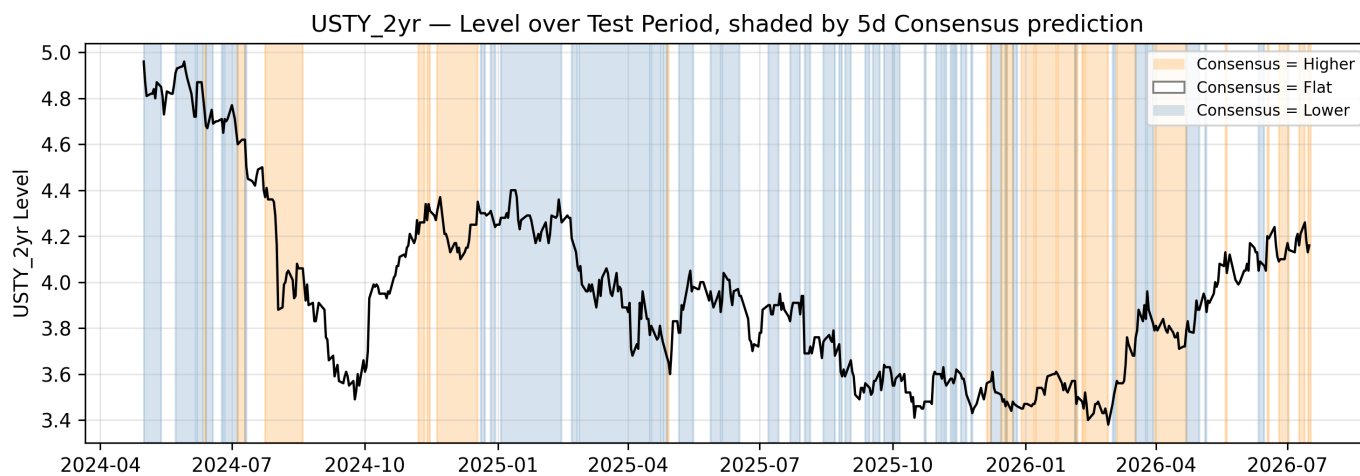


Figure 4: USTY_2yr — daily level over the test period; shading reflects each ModelDate's Combined consensus prediction (orange = Higher, no shade = Flat, blue = Lower).

Winner-Sector History (per 6-month walk-forward window)

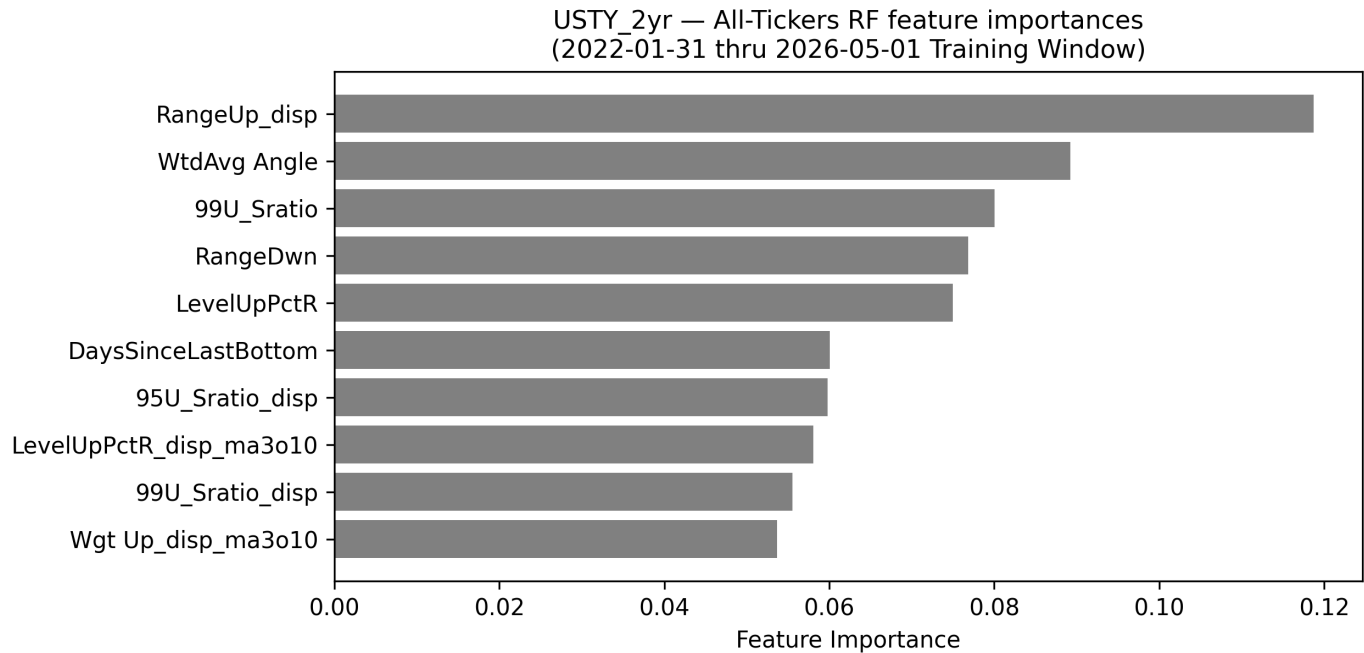
	Window Start	Window End	Winner Sector	Pool Size
0	2024-05-01	2024-10-31	Cons. Staples	83862
1	2024-11-01	2025-04-30	Cons. Disc	102514
2	2025-05-01	2025-10-31	Crypto/Meme	120131
3	2025-11-01	2026-04-30	Homebuilders	138466
4	2026-05-01	2026-07-24	Cons. Disc	155993

Winner-Sector Tickers — Cons. Disc (18 tickers)

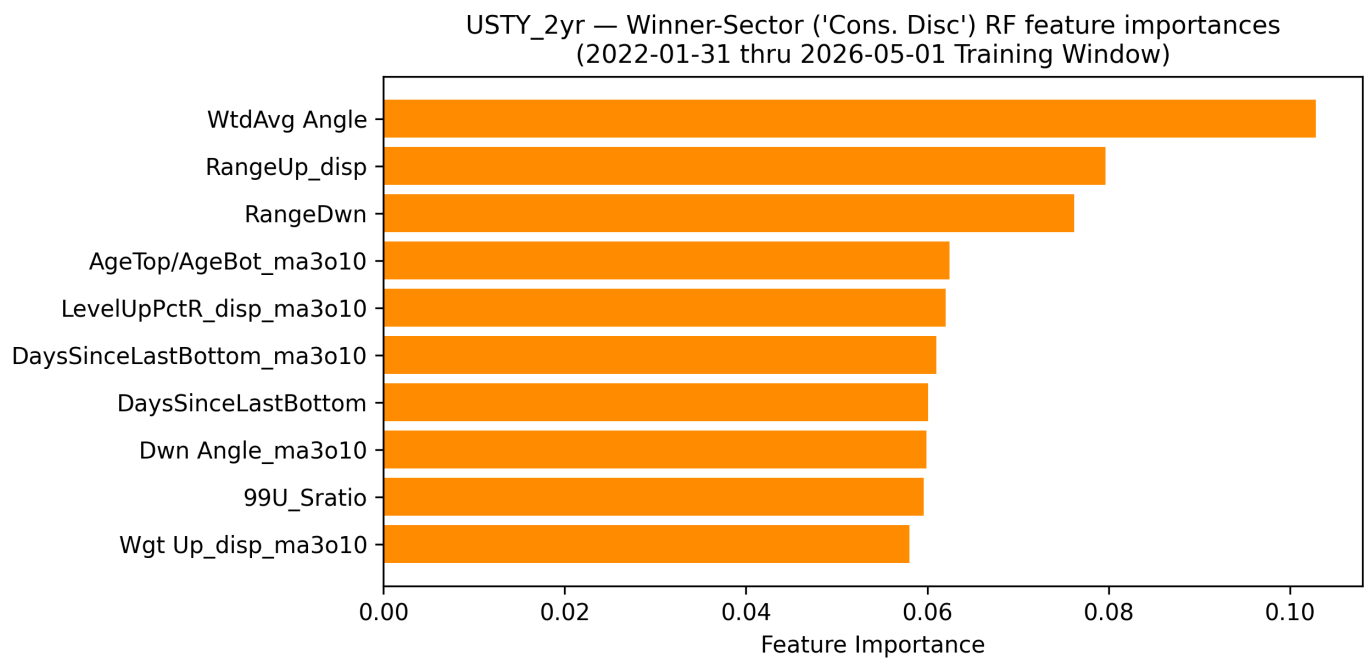
AAP, AZO, BBY, CMG, CZR, DHI, EXPE, F, HD, HLT, LEN, LVS, ORLY, PHM, SBUX, UAA, VFC, WYNN

Top Features — models used for prediction on 2026-07-24

All-Tickers model



Winner-Sector model — Cons. Disc



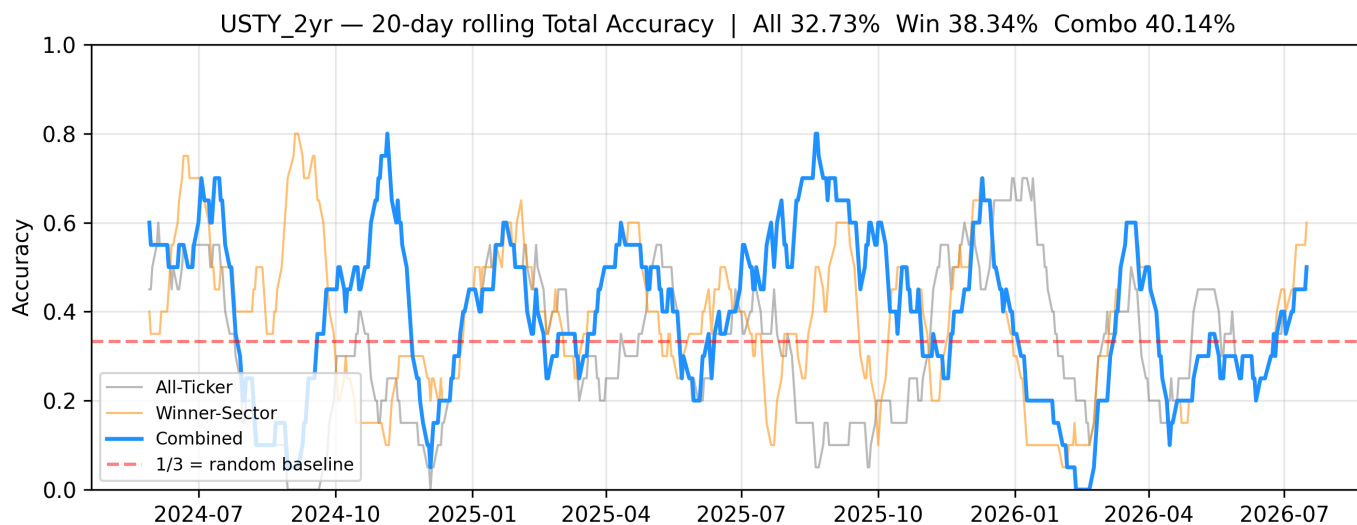


Figure 5: 20-day rolling 5d Forward Total Accuracy (exact Higher / Flat / Lower tercile match) for All-Ticker, Winner-Sector, and Combined classifiers.

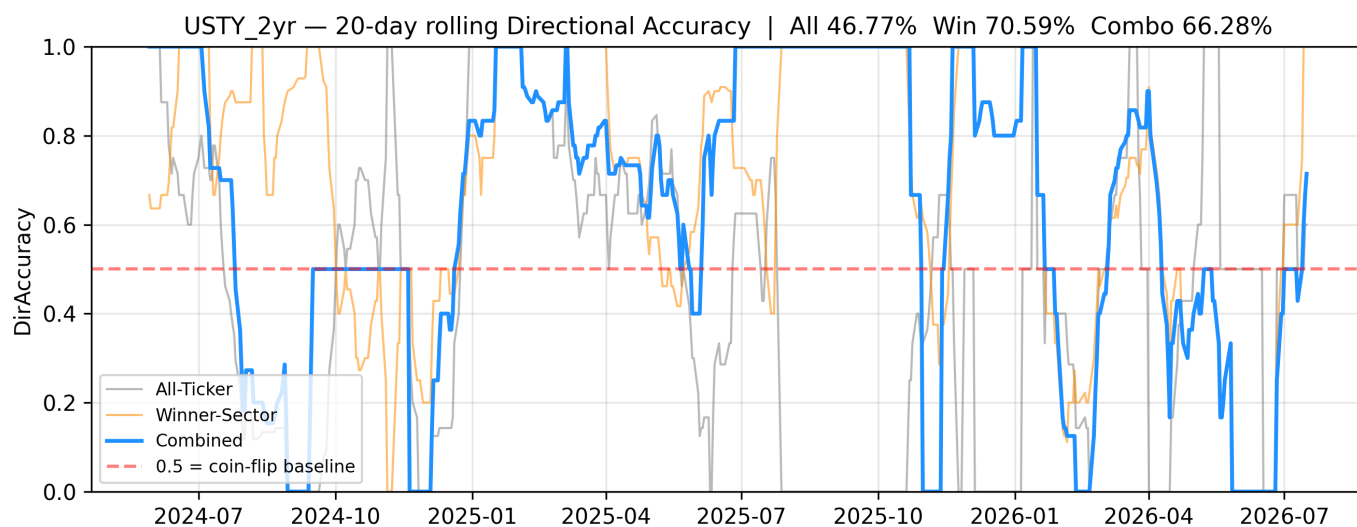


Figure 6: 20-day rolling 5d Forward Directional Accuracy (non-Flat predictions and outcomes) for All-Ticker, Winner-Sector, and Combined classifiers.

USTY_10yr

Tercile Bands for USTY_10yr (fold trained through 2026-07-16)

Tercile	5-Day Forward Change (Δ)
Lower (T0)	$-0.4700 < \Delta < -0.0400$
Flat (T1)	$-0.0400 < \Delta < +0.0700$
Higher (T2)	$+0.0700 < \Delta < +0.5100$

Latest Signals

- Most recent ModelDate: 2026-07-24
- USTY_10yr level on that date: 4.6800
- All-Ticker prediction: Flat (T1)
- Current Winner Sector: Healthcare
- Winner-Sector prediction: Flat (T1)
- Combined (All x Winner) prediction: Flat (T1)

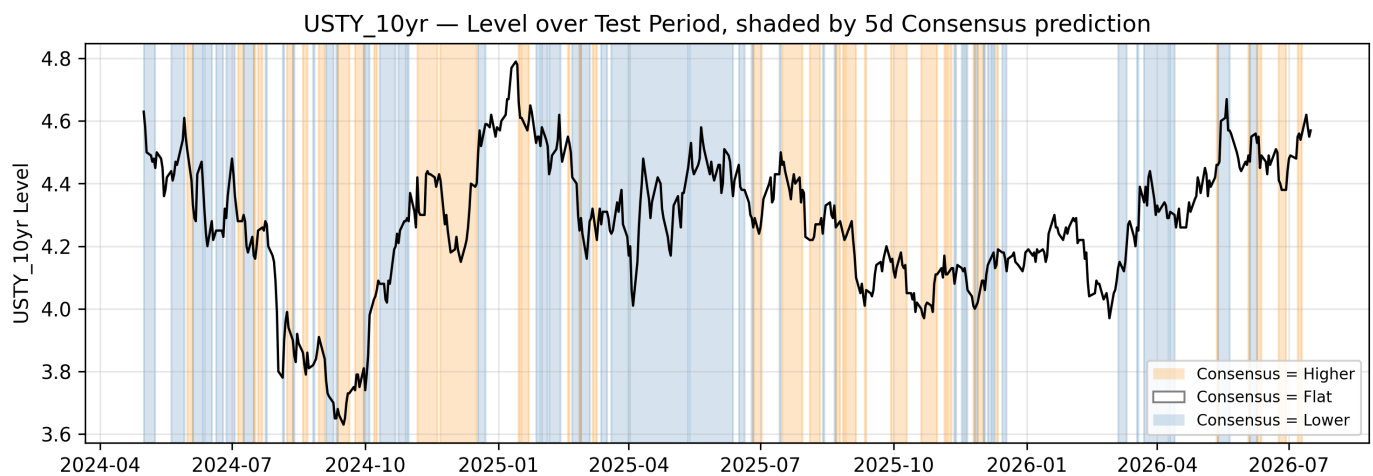


Figure 7: USTY_10yr — daily level over the test period; shading reflects each ModelDate's Combined consensus prediction (orange = Higher, no shade = Flat, blue = Lower).

Winner-Sector History (per 6-month walk-forward window)

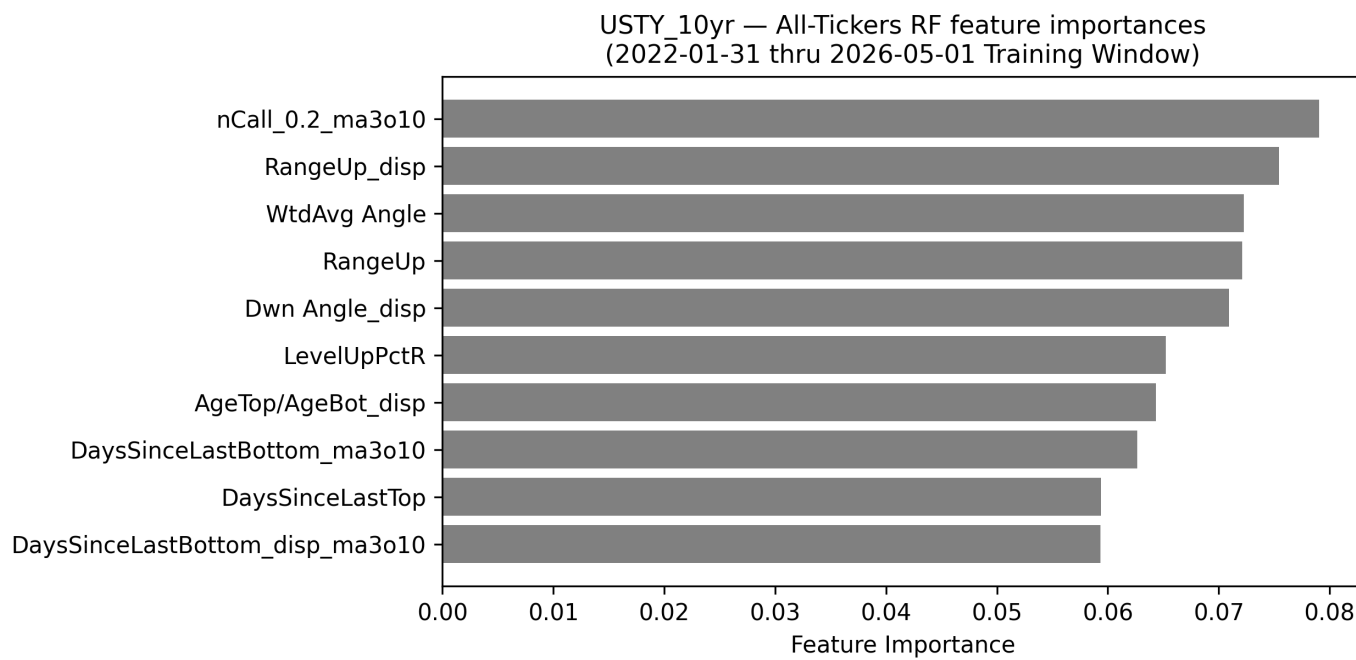
	Window Start	Window End	Winner Sector	Pool Size
0	2024-05-01	2024-10-31	Cons. Disc	83862
1	2024-11-01	2025-04-30	Cons. Disc	102514
2	2025-05-01	2025-10-31	Healthcare	120131
3	2025-11-01	2026-04-30	Homebuilders	138466
4	2026-05-01	2026-07-24	Healthcare	155993

Winner-Sector Tickers — Healthcare (25 tickers)

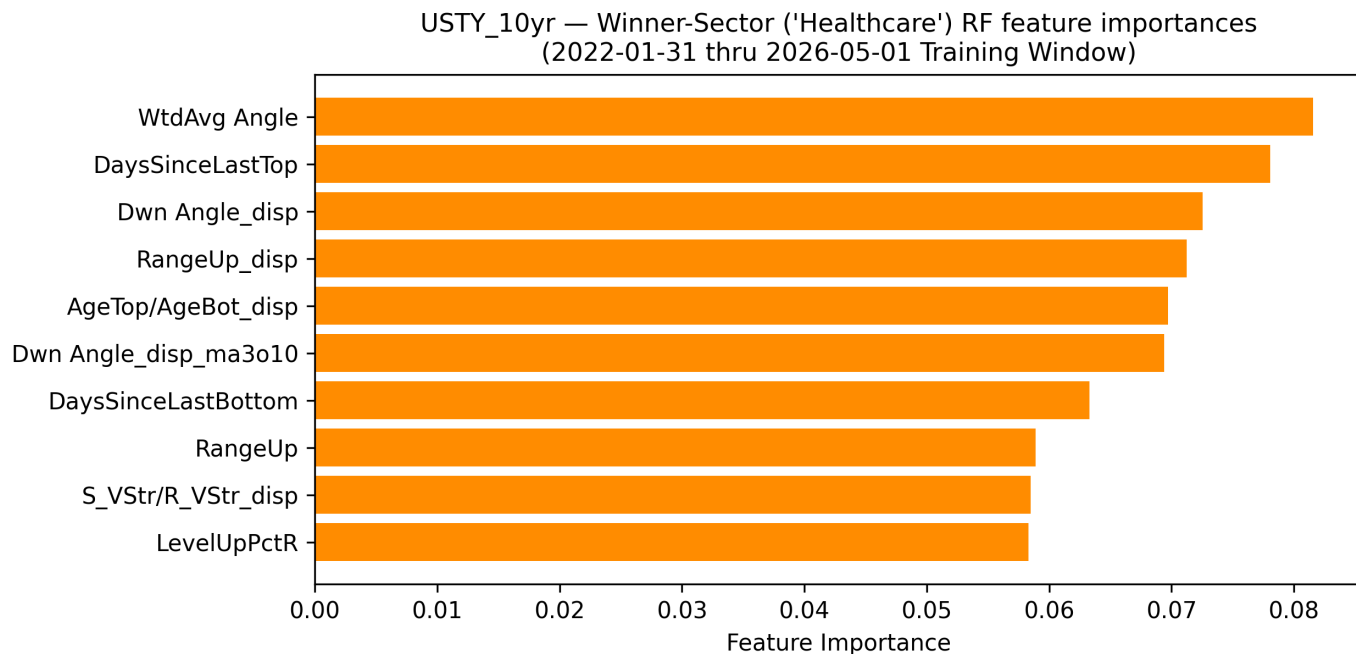
ABBV, AMGN, AZN, BHC, BIIB, BMY, CAH, CNC, CVS, CYH, ELAN, GILD, GSK, HCA, ISRG, JAZZ, LLY, MRK, NVS, PRGO, SNY, TEVA, THC, UNH, ZTS

Top Features — models used for prediction on 2026-07-24

All-Tickers model



Winner-Sector model — Healthcare



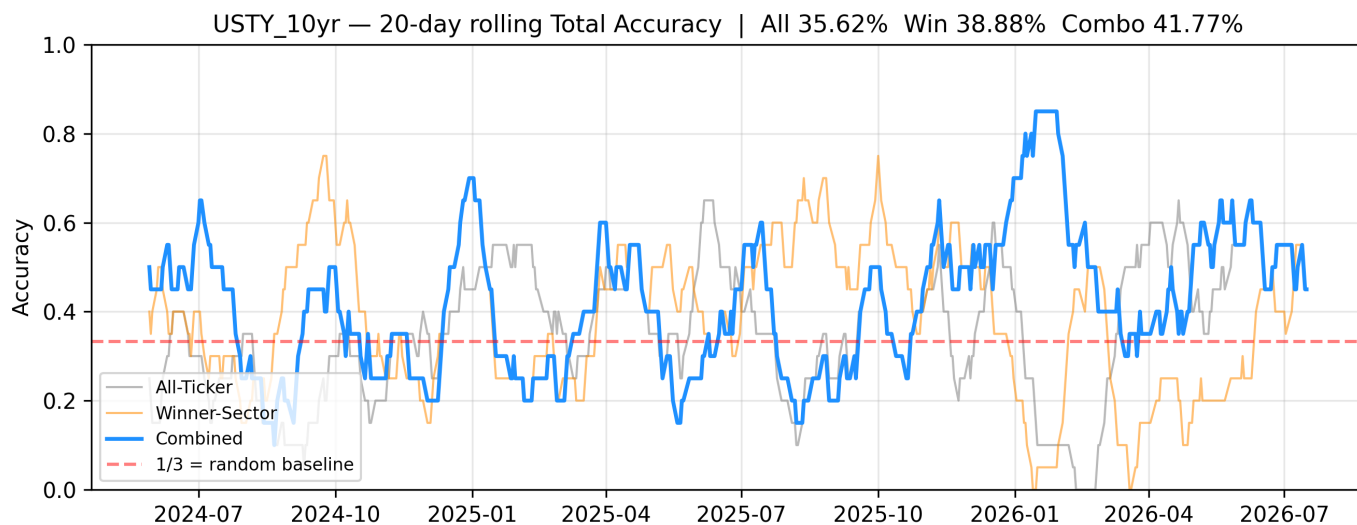


Figure 8: 20-day rolling 5d Forward Total Accuracy (exact Higher / Flat / Lower tercile match) for All-Ticker, Winner-Sector, and Combined classifiers.

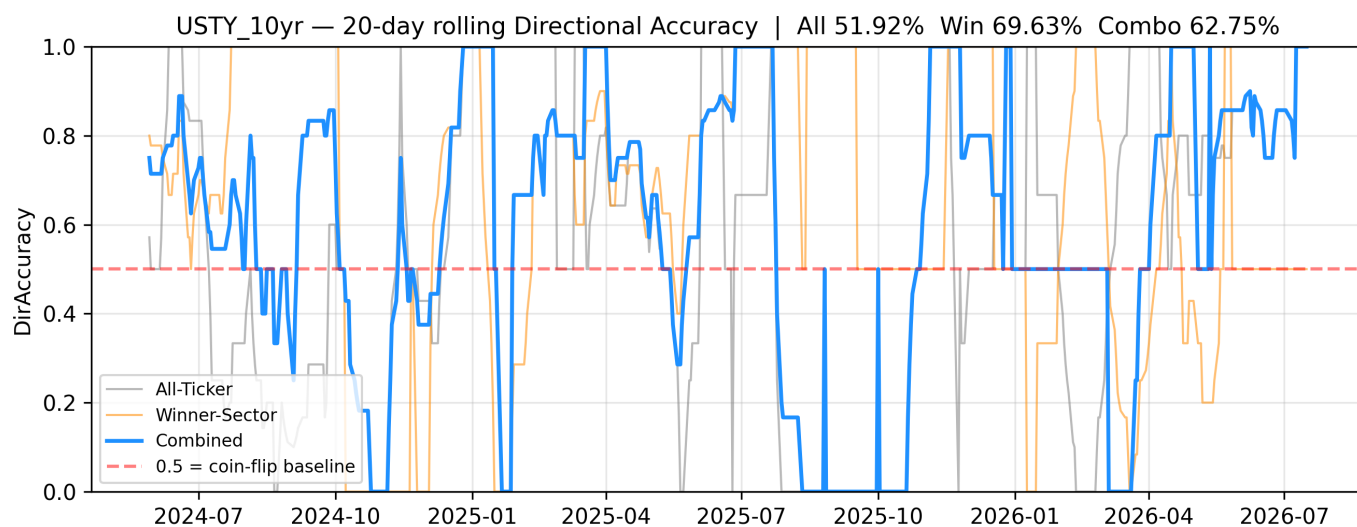


Figure 9: 20-day rolling 5d Forward Directional Accuracy (non-Flat predictions and outcomes) for All-Ticker, Winner-Sector, and Combined classifiers.

Methodology Notes

- **Target:** 5-day forward change in each macro variable, bucketed into terciles (T0 lowest / T1 middle / T2 highest). Quintile boundaries are refit per fold on the training slice only — no test-period leakage.
- **All-Ticker model:** Random Forest Classifier on per-date mean and per-date cross-ticker standard deviation (`_disp`) of every Vecviz feature.
- **Winner-Sector model:** same RF Classifier but trained on the sector that wins a fresh 80/20-split tournament at each 6-month walk-forward boundary, so the winner can change over time.
- **Combined classifier:** deterministic 3×3 lookup combining the All-Ticker prediction (rows) and the Winner-Sector prediction (cols):

	Win = T0	Win = T1	Win = T2
All = T0	T0	T0	T1
All = T1	T0	T1	T2
All = T2	T1	T2	T2

- **Accuracy:** exact tercile match; random baseline = 33.3%.
- **DirAccuracy** (“Directional Accuracy”): standard accuracy computed AFTER excluding rows whose prediction OR actual = T1 (middle). 20-day rolling windows default to 0.5 when no non-middle predictions are present.
- **Latest-date predictions:** emitted past the last day where a realized 5-day target is computable, by re-running the final-fold model on the most recent ModelDate’s features.
- **Feature selection (top-16, with 3dma/10dma momentum):** an All-Tickers Random Forest (`n_estimators=500`, `max_depth=10`, `min_samples_leaf=5`, `max_features='sqrt'`, `random_state=42`) is fit on the full 2022-01-31 → 2024-04-30 in-sample window across a 168-column universe (per-day mean, per-day cross-ticker dispersion, and the 3-day MA / 10-day MA ratio of each base column — `_ma3o10`); the 16 columns with the highest `feature_importances_` are selected and used by every downstream model.

Selected Features — Per Target

Top 16 features — VIX

Rank	Feature	Importance	Type
1	V-Score_ma3o10	0.0164	mean
2	RangeUp_disp	0.0139	disp
3	RangeDwn	0.0133	mean
4	RangeDwn_ma3o10	0.0131	mean
5	RangeUp	0.0122	mean
6	99U_Ret	0.0121	mean
7	Dwn Angle	0.0114	mean
8	LevelUpPctR	0.0107	mean
9	DaysSinceLastBottom	0.0103	mean
10	Sigma_99U_Ret	0.0101	mean
11	LevelUpPctR_disp	0.01	disp
12	Sigma_95U_Ret	0.0099	mean
13	AgeTop/AgeBot_disp_ma3o10	0.0099	mean
14	WtdAvg Angle_disp	0.0096	disp
15	S_VStr/R_VStr	0.0096	mean
16	Sigma_99D_Ret	0.0093	mean

Top 16 features — USTY_2yr

Rank	Feature	Importance	Type
1	DaysSinceLastBottom	0.0175	mean
2	AgeTop/AgeBot_ma3o10	0.0157	mean
3	LevelUpPctR_disp_ma3o10	0.0153	mean
4	RangeUp_disp	0.0142	disp
5	99U_Sratio_disp	0.0139	disp
6	LevelUpPctR	0.0108	mean
7	DaysSinceLastBottom_ma3o10	0.0105	mean
8	RangeDwn	0.0101	mean
9	RangeDwn_disp_ma3o10	0.0093	mean
10	Wgt Up_disp_ma3o10	0.009	mean
11	99U_Sratio	0.0089	mean
12	Dwn Angle_ma3o10	0.0089	mean
13	WtdAvg Angle	0.0087	mean
14	S_VStr/R_VStr_disp_ma3o10	0.0087	mean
15	99U_Sratio_ma3o10	0.0086	mean
16	95U_Sratio_disp	0.0085	disp

Top 16 features — USTY_10yr

Rank	Feature	Importance	Type
1	DaysSinceLastBottom_ma3o10	0.0147	mean
2	RangeUp	0.0139	mean
3	LevelUpPctR	0.0132	mean
4	S_VStr/R_VStr	0.0126	mean
5	DaysSinceLastBottom_disp_ma3o10	0.0125	mean
6	Dwn Angle_disp	0.0108	disp
7	DaysSinceLastTop	0.0102	mean
8	DaysSinceLastBottom	0.0101	mean
9	RangeUp_disp	0.0098	disp

Rank	Feature	Importance	Type
10	95U_Sratio	0.0095	mean
11	nCall_0.2_ma3o10	0.0094	mean
12	AgeTop/AgeBot_disp	0.0093	disp
13	S_VStr/R_VStr_disp	0.0093	disp
14	WtdAvg Angle	0.0091	mean
15	99D_Sratio_disp	0.0091	disp
16	Dwn Angle_disp_ma3o10	0.0091	mean