

FEATURE USAGE SUMMARY (HARD MODELS)

This document lists which features were used and learned by each model.

All Available Features in HARD Dataset

ask
best_ask
best_bid
bid
intensity_120s
intensity_30s
intensity_60s
label
last_size
mid_return
midprice
price
price_mean_300s
price_mean_30s
price_mean_60s
price_pct_change
price_std_300s
price_std_30s
price_std_60s
return_10s
return_30s
return_60s
return_max_300s
return_max_30s
return_max_60s
return_mean_300s
return_mean_30s
return_mean_60s
return_min_300s
return_min_30s
return_min_60s
return_std_300s
return_std_30s
return_std_60s
sequence
spread

spread_bps
tick_count_300s
tick_count_30s
tick_count_60s
trade_id
trade_intensity

Features Used by Model: gradient_boosting_hard_20251119_114951

ask
best_ask
best_bid
bid
intensity_120s
intensity_30s
intensity_60s
label
last_size
mid_return
midprice
price
price_mean_300s
price_mean_30s
price_mean_60s
price_pct_change
price_std_300s
price_std_30s
price_std_60s
return_10s
return_30s
return_60s
return_max_300s
return_max_30s
return_max_60s
return_mean_300s
return_mean_30s

return_mean_60s
return_min_300s
return_min_30s
return_min_60s
return_std_300s
return_std_30s
return_std_60s
sequence
spread
spread_bps
tick_count_300s
tick_count_30s
tick_count_60s
trade_id
trade_intensity

Features Used by Model:

logistic_regression_hard_20251119_114950

ask
best_ask
best_bid
bid
intensity_120s
intensity_30s
intensity_60s
label
last_size
mid_return
midprice
price
price_mean_300s
price_mean_30s
price_mean_60s
price_pct_change
price_std_300s
price_std_30s

price_std_60s
return_10s
return_30s
return_60s
return_max_300s
return_max_30s
return_max_60s
return_mean_300s
return_mean_30s
return_mean_60s
return_min_300s
return_min_30s
return_min_60s
return_std_300s
return_std_30s
return_std_60s
sequence
spread
spread_bps
tick_count_300s
tick_count_30s
tick_count_60s
trade_id
trade_intensity

Features Used by Model: random_forest_hard_20251119_114950

ask
best_ask
best_bid
bid
intensity_120s
intensity_30s
intensity_60s
label
last_size
mid_return

midprice
price
price_mean_300s
price_mean_30s
price_mean_60s
price_pct_change
price_std_300s
price_std_30s
price_std_60s
return_10s
return_30s
return_60s
return_max_300s
return_max_30s
return_max_60s
return_mean_300s
return_mean_30s
return_mean_60s
return_min_300s
return_min_30s
return_min_60s
return_std_300s
return_std_30s
return_std_60s
sequence
spread
spread_bps
tick_count_300s
tick_count_30s
tick_count_60s
trade_id
trade_intensity

Features Used by Model: xgboost_hard_20251119_114951

ask
best_ask

best_bid
bid
intensity_120s
intensity_30s
intensity_60s
label
last_size
mid_return
midprice
price
price_mean_300s
price_mean_30s
price_mean_60s
price_pct_change
price_std_300s
price_std_30s
price_std_60s
return_10s
return_30s
return_60s
return_max_300s
return_max_30s
return_max_60s
return_mean_300s
return_mean_30s
return_mean_60s
return_min_300s
return_min_30s
return_min_60s
return_std_300s
return_std_30s
return_std_60s
sequence
spread
spread_bps
tick_count_300s
tick_count_30s
tick_count_60s

trade_id
trade_intensity

Common Features Among ALL Models

ask
best_ask
best_bid
bid
intensity_120s
intensity_30s
intensity_60s
label
last_size
mid_return
midprice
price
price_mean_300s
price_mean_30s
price_mean_60s
price_pct_change
price_std_300s
price_std_30s
price_std_60s
return_10s
return_30s
return_60s
return_max_300s
return_max_30s
return_max_60s
return_mean_300s
return_mean_30s
return_mean_60s
return_min_300s
return_min_30s
return_min_60s
return_std_300s

return_std_30s
return_std_60s
sequence
spread
spread_bps
tick_count_300s
tick_count_30s
tick_count_60s
trade_id
trade_intensity

Unique Features Per Model

Unique to gradient_boosting_hard_20251119_114951

None

Unique to logistic_regression_hard_20251119_114950

None

Unique to random_forest_hard_20251119_114950

None

Unique to xgboost_hard_20251119_114951

None
