

Classification Report				
	precision	recall	f1-score	support
0	0.82	0.92	0.87	387
1	0.75	0.53	0.62	168
accuracy			0.80	555
macro avg	0.78	0.73	0.74	555
weighted avg	0.80	0.80	0.79	555

Accuracy
Accuracy: 0.8036036036036036

Optimal Win Ranges Summary

	feature	optimal_win_range_start	optimal_win_range_end
0	AWESOME	-1.029104	0.932934
1	MA_ENVELOPES_UPPER_percent_away	-2.480524	-2.178969
2	MA_ENVELOPES_UPPER_percent_away	-0.566810	0.952562
3	MA_ENVELOPES_UPPER_percent_away	4.130485	4.490032
4	ZIGZAG_LOW_percent_away	-0.845165	0.437999
5	ZIGZAG_LOW_percent_away	5.069608	5.240696
6	MA_ENVELOPES_LOWER_percent_away	-2.480017	-2.178434
7	MA_ENVELOPES_LOWER_percent_away	-0.566126	0.953388
8	MA_ENVELOPES_LOWER_percent_away	4.131609	4.491188
9	ZIGZAG_HIGH_percent_away	-9.732693	-8.413519
10	ZIGZAG_HIGH_percent_away	-8.137120	-6.415912
11	ZIGZAG_HIGH_percent_away	-0.146693	1.122227
12	ADX	-1.467355	-0.131227
13	MA_ENVELOPES_MID_percent_away	-2.481288	-2.179680
14	MA_ENVELOPES_MID_percent_away	-0.567235	0.952406
15	MA_ENVELOPES_MID_percent_away	4.130894	4.490503
16	MACD_AVG	-1.027276	0.903802
17	APZ_UP_percent_away	-2.723446	-1.993813
18	APZ_UP_percent_away	-0.584015	0.924716
19	APZ_UP_percent_away	2.520013	2.792080
20	APZ_UP_percent_away	4.276078	4.572877
21	LIN_REG_percent_away	-2.827463	-2.438028
22	LIN_REG_percent_away	-2.178405	-1.954185
23	LIN_REG_percent_away	-0.455450	0.984279
24	LIN_REG_percent_away	2.305997	2.612825
25	LIN_REG_percent_away	4.040752	4.335779

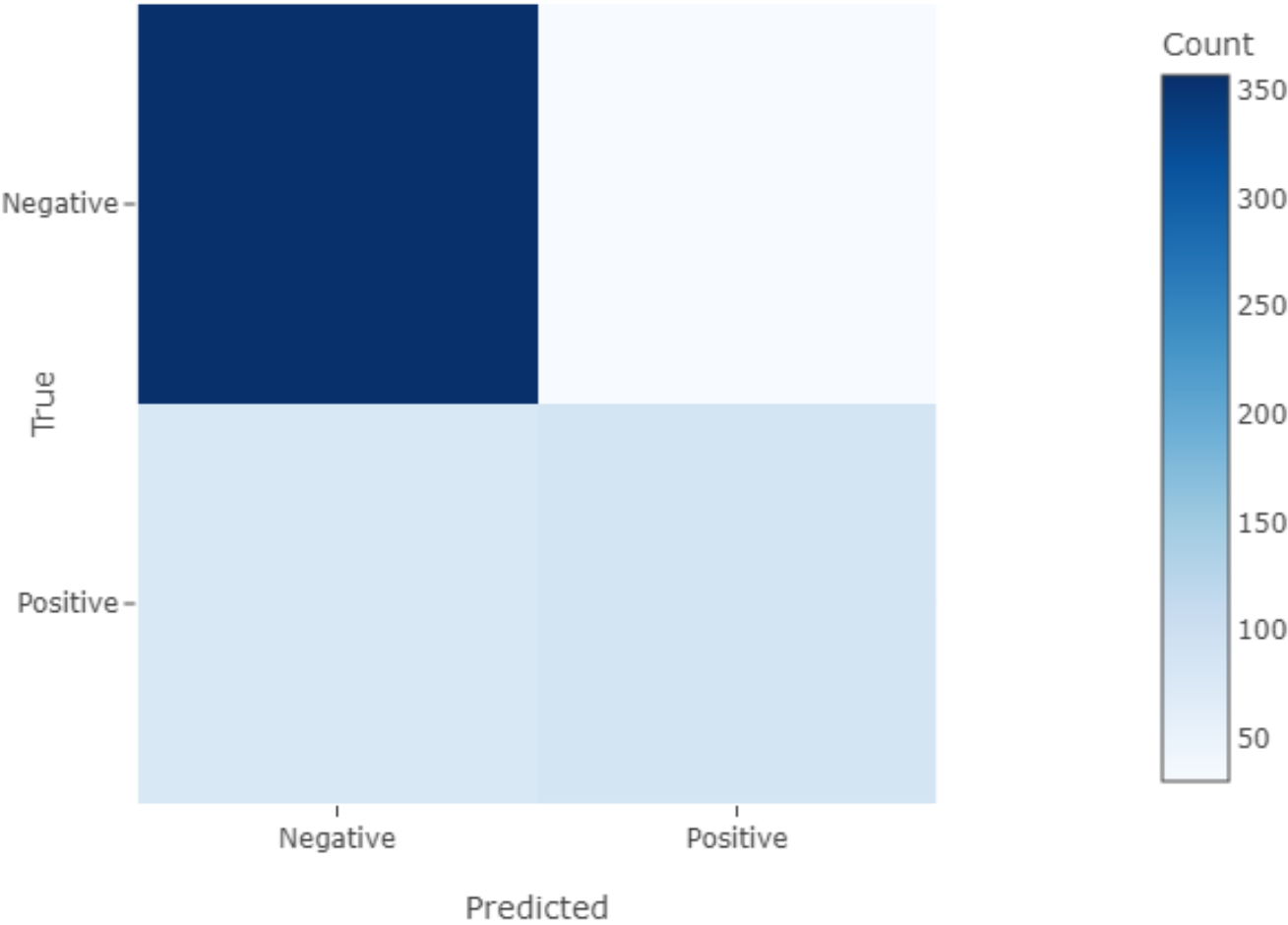
Loss Mitigation Analysis

	count	mean	std	min	25%	50%	75%	max
ACCUM_DIST		891.0	0.063917	9.238803e-01	-3.858756e+00	-4.200020e-16	-4.200020e-16	-4.200020e-16
ADX	891.0	0.352723	1.080255e+00	-1.467355e+00	-4.801315e-01	1.423905e-01	1.017062e-01	1.017062e-01
AROON_DOWN	891.0	-0.135093	1.024984e+00	-1.402518e+00	-1.402518e+00	-1.402518e+00	1.121756e-01	7.612500e-02
AROON_UP	891.0	0.030412	1.003816e+00	-1.475225e+00	-1.025294e+00	5.489907e-01	7.737500e-02	7.737500e-02
ATR	891.0	-0.163947	9.950928e-01	-1.965443e+00	-1.014666e+00	-3.231913e-01	4.547176e-02	4.547176e-02
AWESOME	891.0	0.117514	1.199634e+00	-1.917871e+00	-1.075950e+00	2.320717e-01	1.302500e-01	1.302500e-01
CCI	891.0	-0.125522	1.105428e+00	-1.929347e+00	-1.314323e+00	-2.573079e-01	1.054337e-02	1.054337e-02
CHAIKIN	891.0	-0.022477	1.025049e+00	-5.499844e+00	-5.436894e-01	1.088141e-02	5.039940e-03	5.039940e-03
CMO	891.0	-0.118417	8.988992e-01	-2.517524e+00	-8.529933e-01	-4.817050e-01	7.136240e-02	7.136240e-02
DISPARITY_INDEX	891.0	-0.094066	8.125651e-01	-1.936125e+00	-7.029335e-01	-8.633797e-02	5.337500e-03	5.337500e-03
DM_ADX_PLOT	891.0	0.352723	1.080255e+00	-1.467355e+00	-4.801315e-01	1.423905e-01	1.017062e-01	1.017062e-01
DM_DI_MINUS	891.0	-0.057041	9.978458e-01	-2.751897e+00	-7.355735e-01	-1.227316e-02	6.243750e-03	6.243750e-03
DM_DI_PLUS	891.0	-0.028666	9.712281e-01	-2.807351e+00	-6.424268e-01	-1.036852e-02	6.216250e-03	6.216250e-03
DYNAMIC_MOMENTUM	891.0	-0.052995	8.768612e-01	-3.506666e+00	-7.226890e-01	-9.556748e-02	9.737500e-03	9.737500e-03
FISHER_TRANSFORM	891.0	-0.083636	1.050579e+00	-1.537346e+00	-1.328498e+00	-4.930431e-02	1.182500e-02	1.182500e-02
LIN_REG_SLOPE	891.0	-0.053096	9.336813e-01	-2.073675e+00	-9.191278e-01	-1.494297e-01	9.737500e-03	9.737500e-03
MACD_AVG	891.0	0.104472	1.190258e+00	-2.200572e+00	-9.381956e-01	2.389401e-01	1.182500e-02	1.182500e-02
MACD_DEFAULT	891.0	0.098280	1.176312e+00	-2.281100e+00	-9.404748e-01	2.042963e-01	1.182500e-02	1.182500e-02
MACD_DIFF	891.0	-0.114101	1.198506e+00	-2.343214e+00	-1.208496e+00	-2.293962e-01	9.243750e-03	9.243750e-03
MFI	891.0	-0.012124	1.023687e+00	-2.617159e+00	-7.145281e-01	-6.881015e-02	7.399356e-03	7.399356e-03
MOMENTUM	891.0	-0.107411	8.584032e-01	-2.711072e+00	-6.013073e-01	-6.013073e-01	4.537500e-02	4.537500e-02
OBV	891.0	0.064631	9.283716e-01	-3.907453e+00	-2.268885e-16	-2.268885e-16	-2.268885e-16	-2.268885e-16
PFE	891.0	0.091494	1.097131e+00	-1.924185e+00	-1.008066e+00	1.899370e-01	1.176527e-02	1.176527e-02
RIND	891.0	-0.148107	1.037276e+00	-2.033483e+00	-9.694674e-01	-1.243251e-01	6.156553e-03	6.156553e-03
RSI_AVERAGE	891.0	-0.009860	8.603600e-01	-2.801898e+00	-5.956918e-01	1.527672e-02	5.503750e-03	5.503750e-03
RSI_DEFAULT	891.0	-0.083030	8.044056e-01	-2.333340e+00	-6.223927e-01	-1.335505e-01	4.062500e-03	4.062500e-03
RSS	891.0	-0.029047	1.013291e+00	-2.622787e+00	-7.943942e-01	-5.334776e-02	7.014550e-03	7.014550e-03
RVI	891.0	0.103029	1.171801e+00	-2.288306e+00	-9.318078e-01	1.680130e-01	1.151812e-02	1.151812e-02
R_SQUARED	891.0	0.222407	9.742765e-01	-1.718198e+00	-4.711241e-01	6.074267e-01	1.079375e-02	1.079375e-02
STOCH_FAST_D	891.0	-0.102638	1.120682e+00	-1.977527e+00	-1.256080e+00	-1.668279e-01	9.737500e-03	9.737500e-03
STOCH_FAST_K	891.0	-0.139940	1.078975e+00	-1.649664e+00	-1.343114e+00	-4.595278e-01	9.737500e-03	9.737500e-03
TRIX_DEFAULT	891.0	-0.032898	1.388558e-17	-3.289758e-02	-3.289758e-02	-3.289758e-02	-3.289758e-02	-3.289758e-02
TRIX_SIGNAL	891.0	0.023780	1.620234e+00	-3.049942e-02	-3.049942e-02	-3.049942e-02	-3.049942e-02	-3.049942e-02
VOLUME	891.0	-0.041640	9.693109e-01	-5.887958e-01	-5.223562e-01	-4.268493e-01	-2.198300e-01	-2.198300e-01
VOLUME_DOWN	891.0	0.049074	1.118808e+00	-3.841527e-01	-3.841527e-01	-3.550689e-01	-1.182500e-02	-1.182500e-02
VOLUME_UP	891.0	-0.094173	8.229634e-01	-3.863490e-01	-3.863490e-01	-3.863490e-01	-2.333750e-02	-2.333750e-02
VORTEX_MINUS	891.0	-0.017014	9.328293e-01	-4.016403e+00	-6.346753e-01	8.998051e-02	8.137500e-03	8.137500e-03
VORTEX_PLUS	891.0	0.041921	9.381455e-01	-3.013467e+00	-7.614881e-01	-1.082850e-02	7.399356e-03	7.399356e-03
VROC	891.0	-0.074834	8.276113e-01	-6.507844e-01	-5.395453e-01	-3.686253e-01	7.457595e-03	7.457595e-03
WILLIAMS_%R	891.0	-0.139940	1.078974e+00	-1.649663e+00	-1.343113e+00	-4.595267e-01	9.737500e-03	9.737500e-03
144_SMA_percent_away	891.0	-0.035736	1.129122e+00	-3.619241e+00	-6.525986e-01	7.266080e-02	1.079375e-02	1.079375e-02
500P_BOLL_LOWER_percent_away	891.0	-0.019663	1.068541e+00	-2.670985e+00	-6.923743e-01	-7.850500e-02	7.399356e-03	7.399356e-03
500P_BOLL_UPPER_percent_away	891.0	-0.051544	1.114472e+00	-4.267434e+00	-5.927795e-01	2.678261e-02	1.079375e-02	1.079375e-02
618_EMA_percent_away	891.0	-0.048562	1.072546e+00	-3.664322e+00	-6.690748e-01	6.338037e-02	1.079375e-02	1.079375e-02
ACCUM_DIST_percent_away	891.0	-0.049800	1.004586e+00	-1.157283e+00	-6.954886e-01	-2.167982e-02	7.399356e-03	7.399356e-03
APZ_LOW_percent_away	891.0	-0.237508	1.443617e+00	-7.701517e+00	-7.500864e-01	-2.811074e-01	7.399356e-03	7.399356e-03
APZ_UP_percent_away	891.0	-0.196027	1.458338e+00	-7.781405e+00	-6.964722e-01	-2.319297e-01	7.399356e-03	7.399356e-03
CP+_C_percent_away	891.0	-0.064793	1.007188e+00	-1.971912e+00	-1.050585e+00	1.082007e-01	6.216250e-03	6.216250e-03
CP+_R1_percent_away	891.0	-0.067228	1.003957e+00	-2.076107e+00	-1.037413e+00	1.179943e-01	6.216250e-03	6.216250e-03
CP+_R2_percent_away	891.0	-0.069356	1.000225e+00	-2.172002e+00	-1.017860e+00	9.657202e-02	6.216250e-03	6.216250e-03
CP+_R3_percent_away	891.0	-0.071113	9.960887e-01	-2.256838e+00	-9.866830e-01	8.465814e-02	6.216250e-03	6.216250e-03
CP+_R4_percent_away	891.0	-0.073636	9.827229e-01	-2.424276e+00	-8.561770e-01	4.330833e-02	6.216250e-03	6.216250e-03
CP+_R5_percent_away	891.0	-0.069710	9.661790e-01	-2.415271e+00	-6.173753e-01	-1.736439e-01	5.039940e-03	5.039940e-03
CP+_R6_percent_away	891.0	-0.058433	9.600595e-01	-2.141482e+00	-5.801514e-01	-1.342374e-01	2.042963e-02	2.042963e-02
CP+_S1_percent_away	891.0	-0.062136	1.009877e+00	-1.862347e+00	-1.056662e+00	6.803843e-02	6.216250e-03	6.216250e-03
CP+_S2_percent_away	891.0	-0.059341	1.012023e+00	-1.839234e+00	-1.063640e+00	3.462352e-02	6.216250e-03	6.216250e-03
CP+_S3_percent_away	891.0	-0.056473	1.013651e+00	-1.837317e+00	-1.066321e+00	2.110981e-02	6.216250e-03	6.216250e-03
CP+_S4_percent_away	891.0	-0.048015	1.015997e+00	-1.798040e+00	-1.016017e+00	-7.943051e-02	6.216250e-03	6.216250e-03
CP+_S5_percent_away	891.0	-0.036205	1.015036e+00	-1.687533e+00	-9.275450e-01	-1.888799e-01	8.137500e-03	8.137500e-03
CP+_S6_percent_away	891.0	-0.024778	1.010975e+00	-1.537768e+00	-1.009279e+00	-1.463564e-01	7.399356e-03	7.399356e-03
LIN_REG_percent_away	891.0	-0.208658	1.416219e+00	-7.453477e+00	-7.012627e-01	-2.537719e-01	7.399356e-03	7.399356e-03
LIN_REG_INTERCEPT_percent_away	891.0	-0.204170	1.344010e+00	-6.091900e+00	-9.885849e-01	-2.090540e-01	7.399356e-03	7.399356e-03
MA_ENVELOPES_LOWER_percent_away	891.0	-0.218238	1.420855e+00	-7.096556e+00	-8.628659e-01	-3.793750e-02	7.399356e-03	7.399356e-03

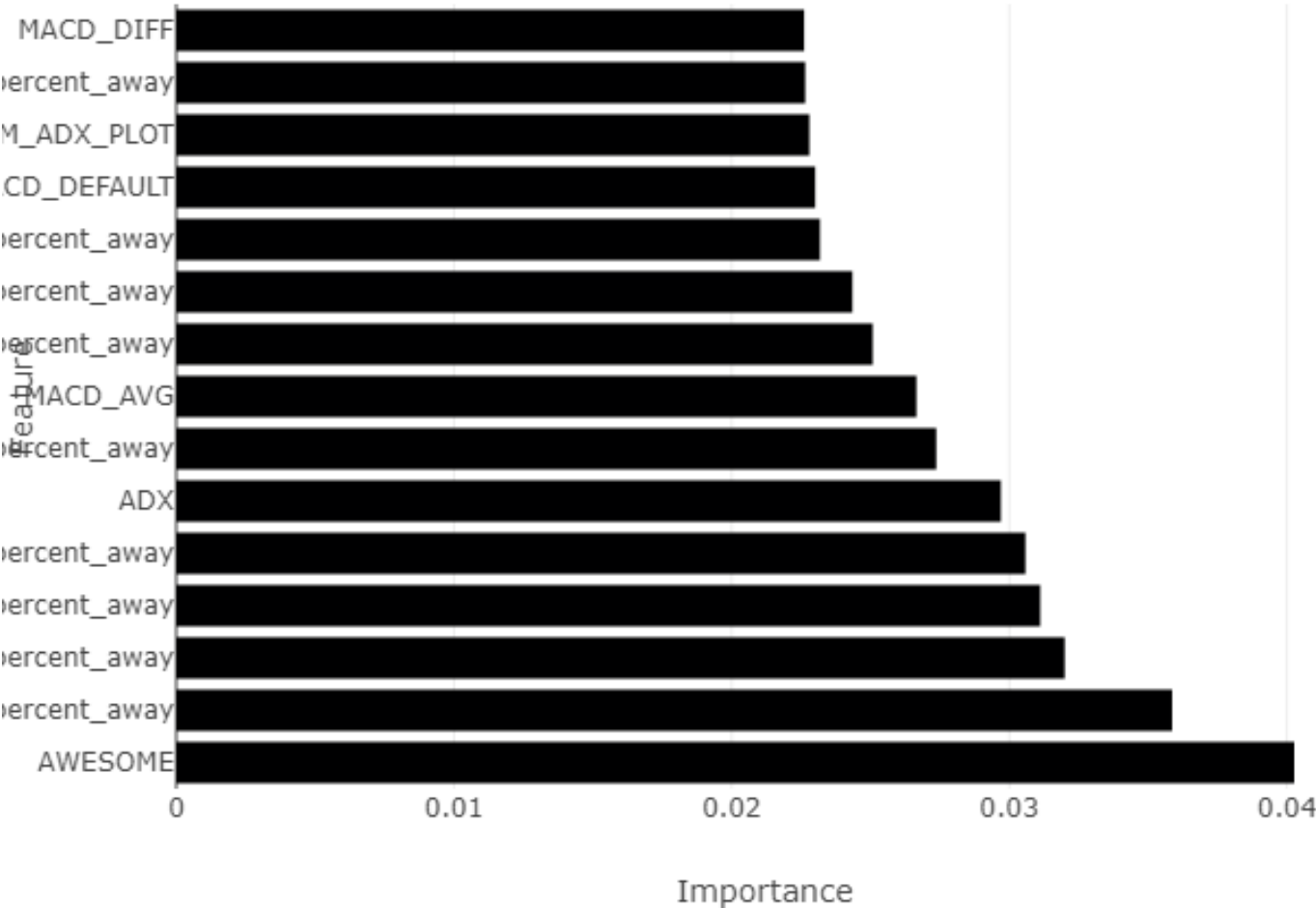
Loss Mitigation Analysis

MA_ENVELOPES_MID_percent_away	891.0	-0.218230	1.420946e+00	-7.098215e+00	-8.626462e-01	-3.7898
MA_ENVELOPES_UPPER_percent_away	891.0	-0.218204	1.420854e+00	-7.096632e+00	-8.628910e-01	-3.78
OBV_percent_away	891.0	-0.049261	1.001580e+00	-1.108437e+00	-6.931966e-01	-2.611862e-01
VROC_percent_away	891.0	0.048273	1.018328e+00	-9.713564e-15	-9.713564e-15	-9.713564e-15
VWAP_percent_away	891.0	-0.016305	9.937769e-01	-2.789857e+00	-4.933182e-01	2.103280e-01
VWAP_CLOUD_HIGH_percent_away	891.0	-0.021259	9.871014e-01	-3.158506e+00	-3.866692e-01	4.62605
VWAP_CLOUD_LOW_percent_away	891.0	-0.012475	1.007258e+00	-1.515101e+00	-4.849047e-01	-4.5169
VWAP_L1_percent_away	891.0	0.008810	1.015801e+00	-2.611110e+00	-6.534476e-01	-1.033654e-01
VWAP_U1_percent_away	891.0	-0.024801	9.827125e-01	-2.933863e+00	-3.387359e-01	1.568297e-01
VWAP_U2_percent_away	891.0	-0.029255	9.773439e-01	-2.977965e+00	-3.537382e-01	1.592885e-01
ZIGZAG_HIGH_percent_away	891.0	-0.277588	1.282495e+00	-5.937861e+00	-4.972689e-01	-1.861319e-01
ZIGZAG_LOW_percent_away	891.0	0.080437	1.466338e+00	-6.051142e+00	-4.693406e-01	2.454414e-01
ZLEMA_13_percent_away	891.0	-0.210403	1.465259e+00	-8.047752e+00	-6.243002e-01	-1.439191e-01
ZLEMA_233_percent_away	891.0	-0.021122	1.120561e+00	-3.348054e+00	-6.913492e-01	7.015444e-02
144_SMA_binary	891.0	0.025477	1.012797e+00	-1.012242e+00	-1.012242e+00	1.019863e+00
500P_BOLL_LOWER_binary	891.0	-0.003690	1.011292e+00	-1.603643e+00	-1.603643e+00	6.397779e-01
500P_BOLL_UPPER_binary	891.0	0.084833	1.047517e+00	-5.845364e-01	-5.845364e-01	-5.845364e-01
618_EMA_binary	891.0	-0.022773	1.003768e+00	-9.818034e-01	-9.818034e-01	-9.818034e-01
ACCUM_DIST_binary	891.0	-0.003978	1.007449e+00	-4.085756e-01	-4.085756e-01	-4.085756e-01
APZ_LOW_binary	891.0	-0.148341	1.478491e+00	-8.338456e+00	1.564622e-01	1.564622e-01
APZ_UP_binary	891.0	-0.022943	9.558649e-01	-9.305861e-02	-9.305861e-02	-9.305861e-02
CP+_C_binary	891.0	-0.063578	9.953704e-01	-8.922729e-01	-8.922729e-01	-8.922729e-01
CP+_R1_binary	891.0	0.001099	1.003019e+00	-6.988134e-01	-6.988134e-01	-6.988134e-01
CP+_R2_binary	891.0	-0.038104	9.711956e-01	-5.156610e-01	-5.156610e-01	-5.156610e-01
CP+_R3_binary	891.0	-0.036002	9.647849e-01	-4.209814e-01	-4.209814e-01	-4.209814e-01
CP+_R4_binary	891.0	-0.051734	8.918936e-01	-2.346438e-01	-2.346438e-01	-2.346438e-01
CP+_R5_binary	891.0	-0.007651	9.615331e-01	-9.912279e-02	-9.912279e-02	-9.912279e-02
CP+_R6_binary	891.0	0.000000	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
CP+_S1_binary	891.0	-0.104151	1.004944e+00	-1.091762e+00	-1.091762e+00	-1.091762e+00
CP+_S2_binary	891.0	-0.102289	1.014284e+00	-1.207635e+00	-1.207635e+00	8.314202e-01
CP+_S3_binary	891.0	-0.112740	1.021692e+00	-1.291322e+00	-1.291322e+00	7.758363e-01
CP+_S4_binary	891.0	-0.043591	1.019424e+00	-1.544737e+00	-1.544737e+00	6.479203e-01
CP+_S5_binary	891.0	0.010947	9.866972e-01	-3.244471e+00	3.116110e-01	3.116110e-01
CP+_S6_binary	891.0	0.000000	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
LIN_REG_binary	891.0	-0.151507	1.056656e+00	-1.179694e+00	-1.179694e+00	-4.475876e-01
LIN_REG_INTERCEPT_binary	891.0	-0.106368	1.026751e+00	-1.058908e+00	-1.058908e+00	-9.337209e-01
MA_ENVELOPES_LOWER_binary	891.0	0.000000	0.000000e+00	0.000000e+00	0.000000e+00	0.000000
MA_ENVELOPES_MID_binary	891.0	-0.163293	1.064536e+00	-1.157237e+00	-1.157237e+00	-1.076460e-01
MA_ENVELOPES_UPPER_binary	891.0	0.000000	0.000000e+00	0.000000e+00	0.000000e+00	0.000000
OBV_binary	891.0	-0.010504	9.988443e-01	-4.120212e-01	-4.120212e-01	-4.120212e-01
VROC_binary	891.0	0.000000	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
VWAP_binary	891.0	-0.036876	9.960384e-01	-8.269965e-01	-8.269965e-01	-8.269965e-01
VWAP_CLOUD_HIGH_binary	891.0	-0.017174	9.993859e-01	-5.120033e-01	-5.120033e-01	-5.120033e-01
VWAP_CLOUD_LOW_binary	891.0	-0.013489	1.006731e+00	-1.581553e+00	-1.444912e+00	6.989358e-01
VWAP_L1_binary	891.0	-0.033512	1.031209e+00	-2.246854e+00	-7.946543e-01	6.575457e-01
VWAP_U1_binary	891.0	0.043610	1.044491e+00	-4.790301e-01	-4.790301e-01	-4.790301e-01
VWAP_U2_binary	891.0	0.048490	1.120773e+00	-2.113771e-01	-2.113771e-01	-2.113771e-01
ZIGZAG_HIGH_binary	891.0	0.070440	1.179440e+00	-2.360314e-01	-2.360314e-01	-2.360314e-01
ZIGZAG_LOW_binary	891.0	-0.181386	1.300693e+00	-4.508998e+00	2.761920e-01	2.761920e-01
ZLEMA_13_binary	891.0	-0.125468	1.077198e+00	-1.216330e+00	-1.216330e+00	-4.656908e-01
ZLEMA_233_binary	891.0	0.034821	1.011015e+00	-1.089866e+00	-1.089866e+00	9.624623e-01

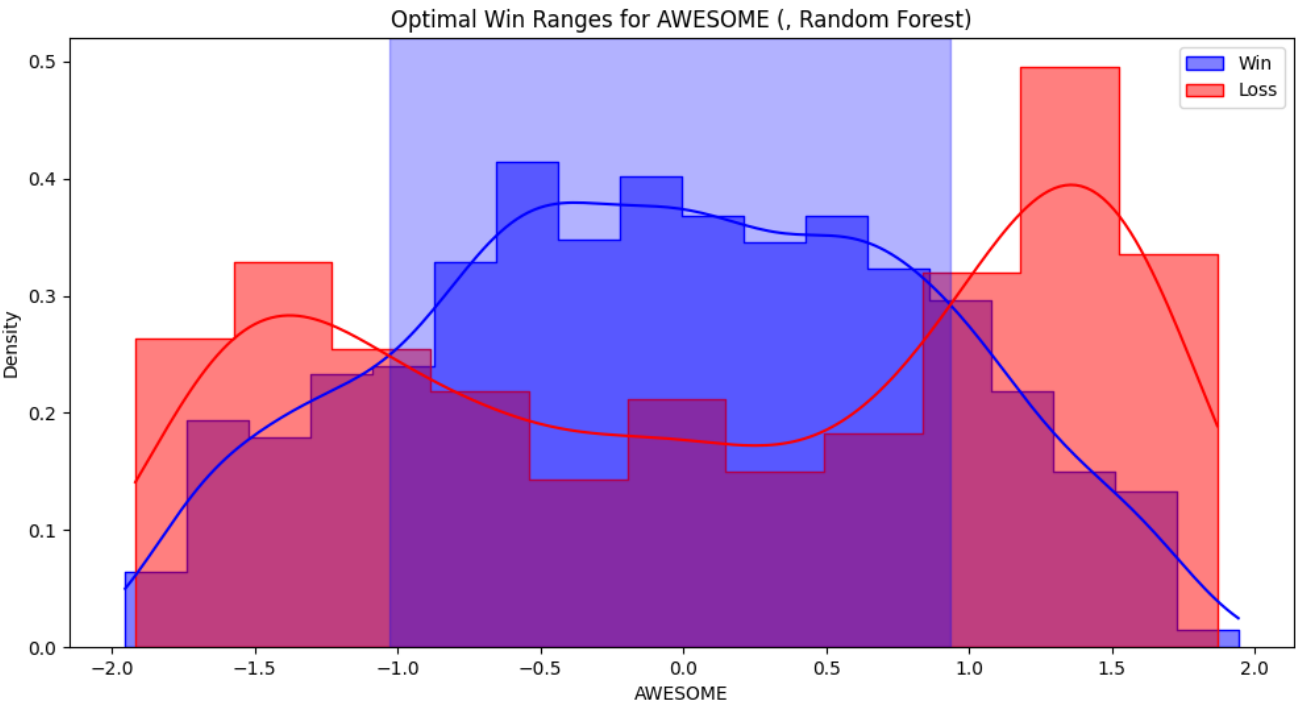
Confusion Matrix



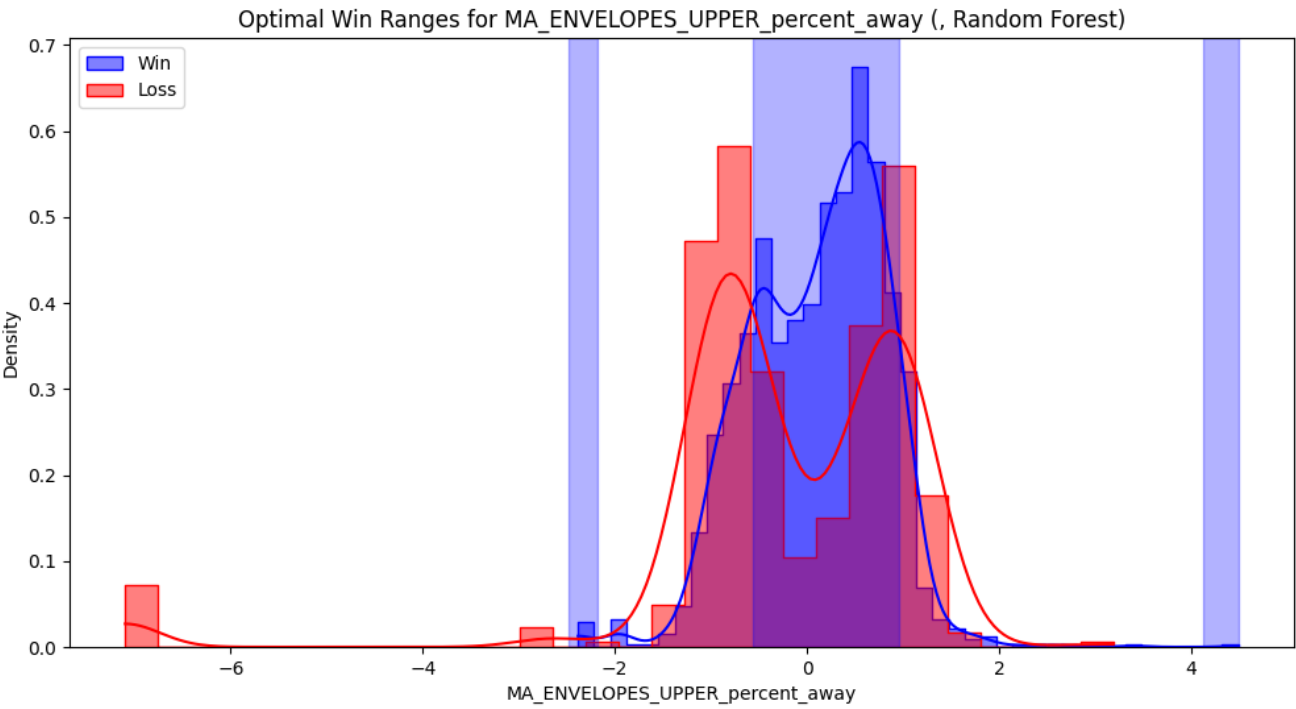
Feature Importance



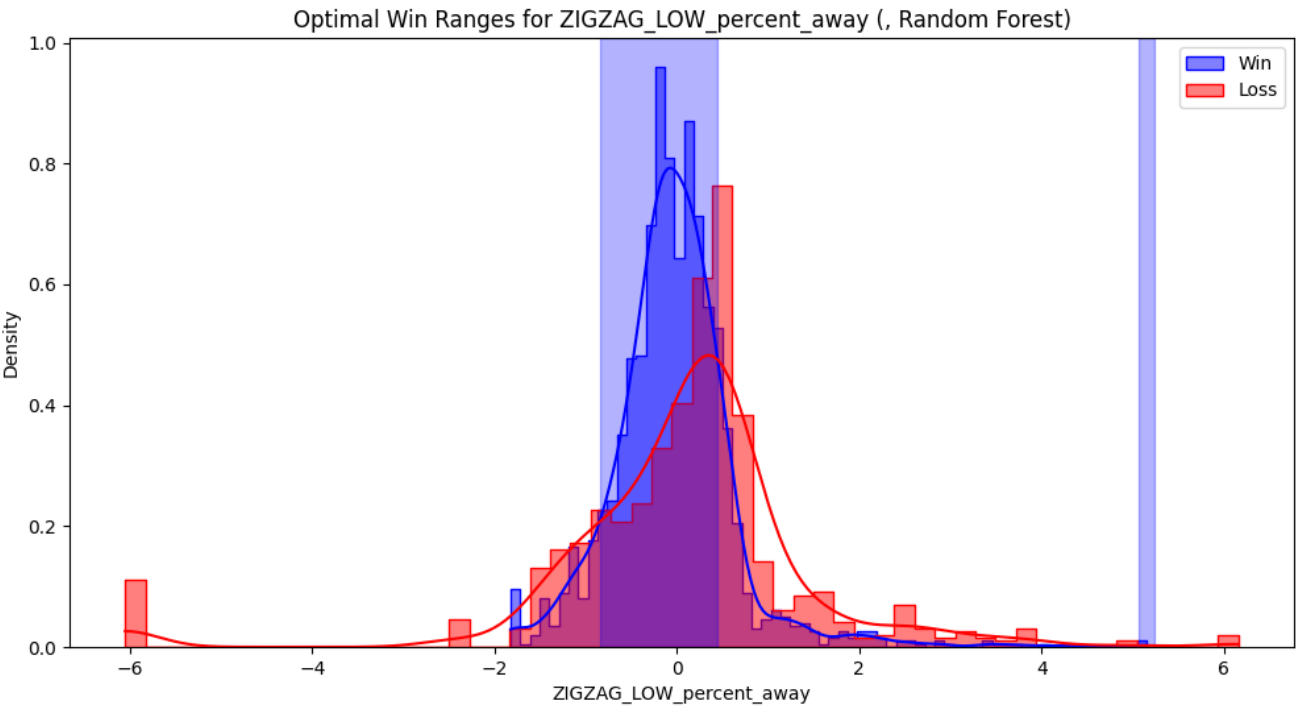
Optimal Win Ranges for AWESOME (, Random Forest)



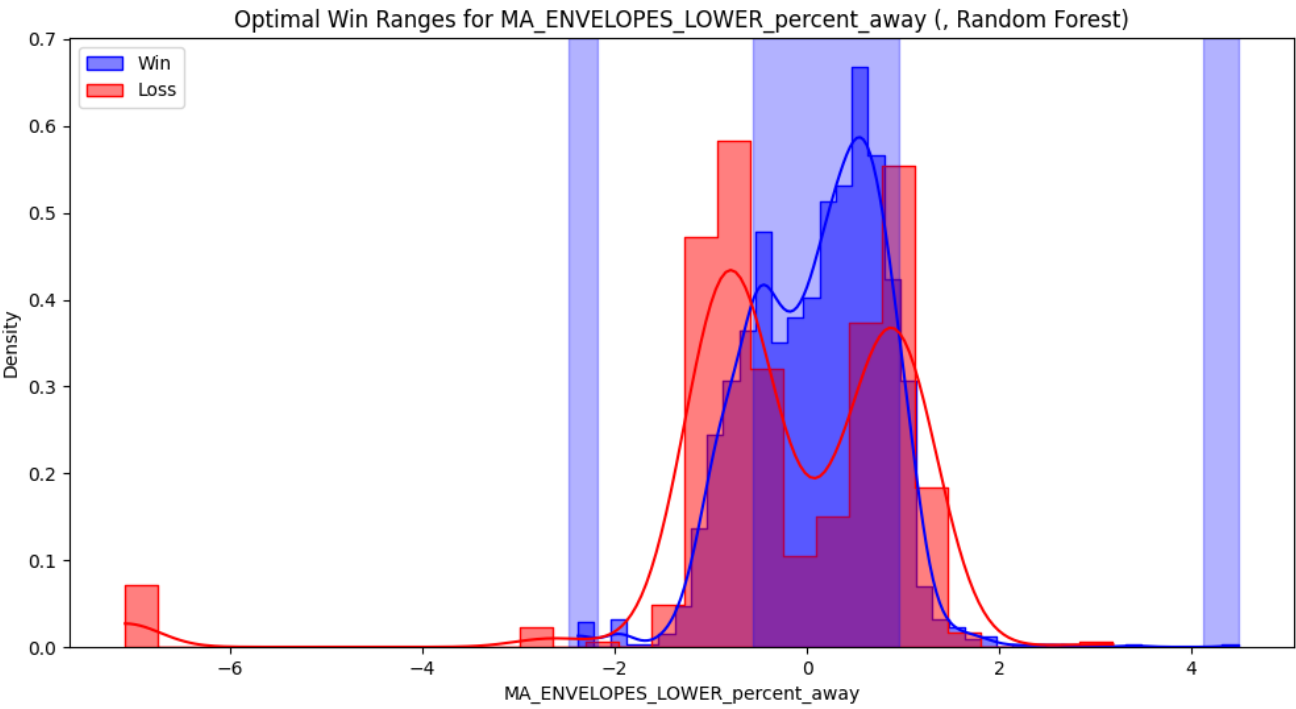
Optimal Win Ranges for MA_ENVELOPES_UPPER_percent_away (, Random Forest)



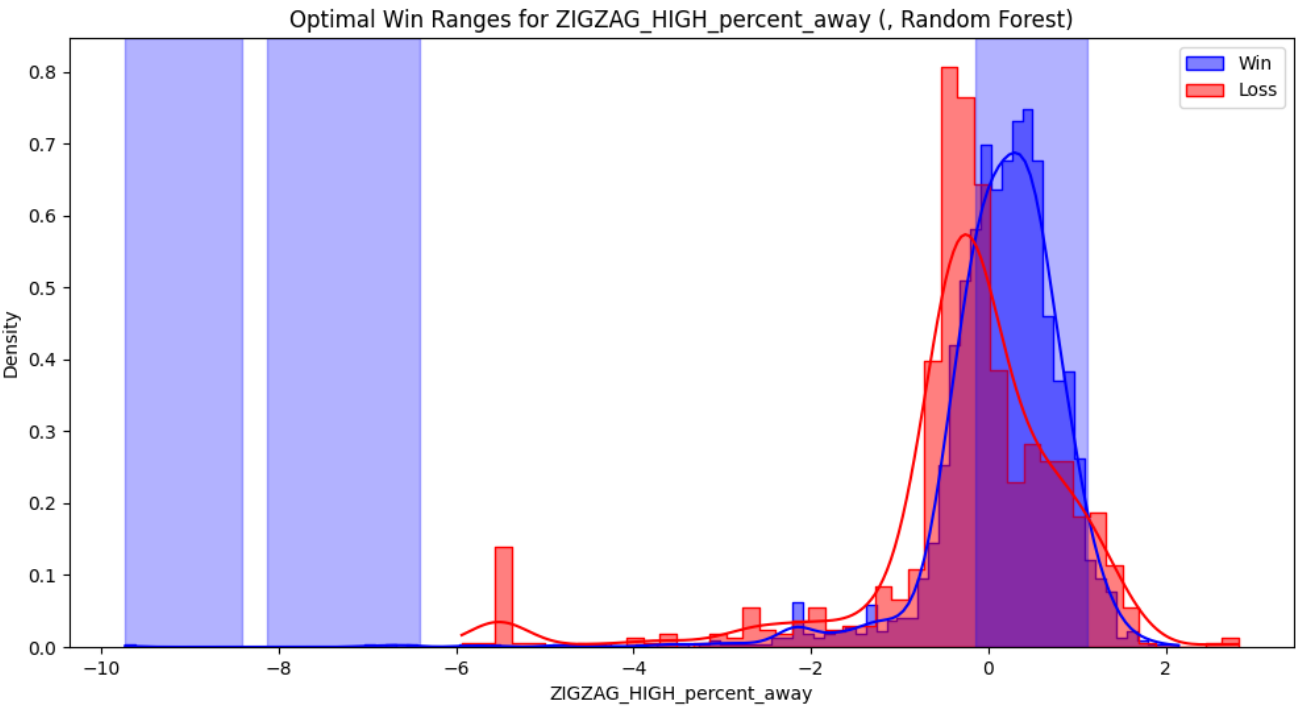
Optimal Win Ranges for ZIGZAG_LOW_percent_away (, Random Forest)



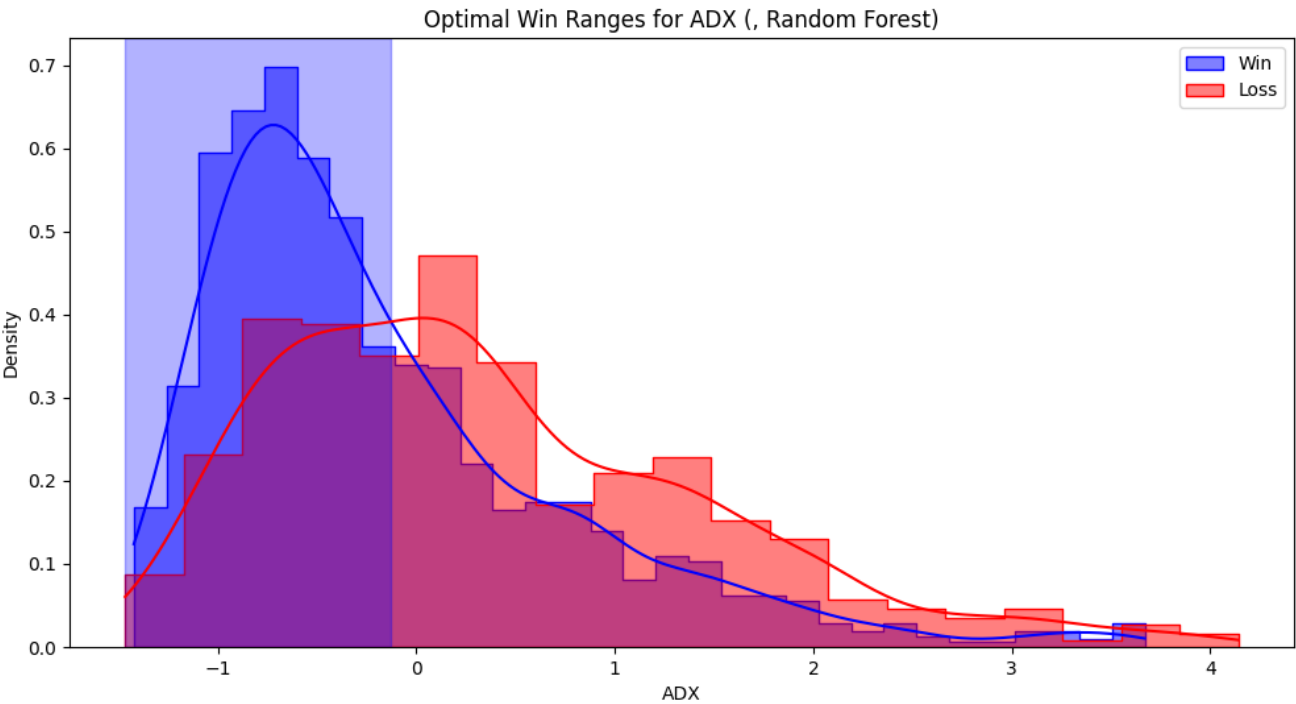
Optimal Win Ranges for MA_ENVELOPES_LOWER_percent_away (, Random Forest)



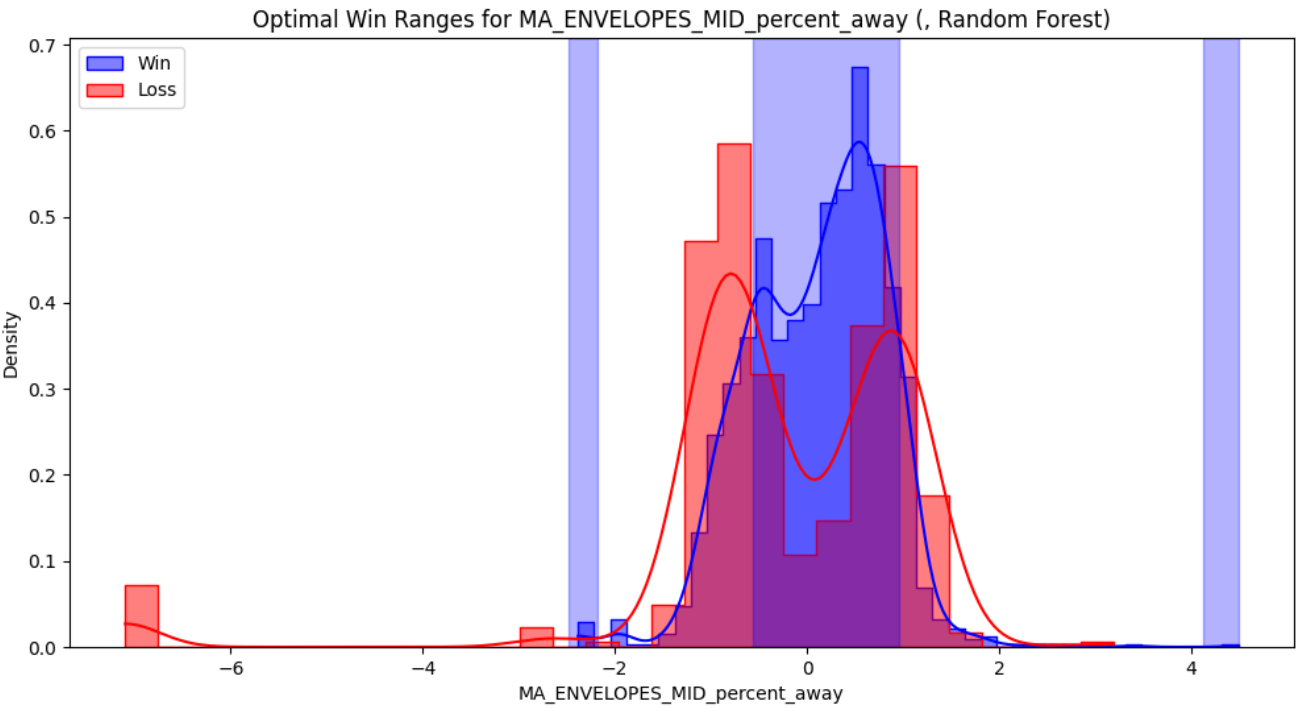
Optimal Win Ranges for ZIGZAG_HIGH_percent_away (, Random Forest)



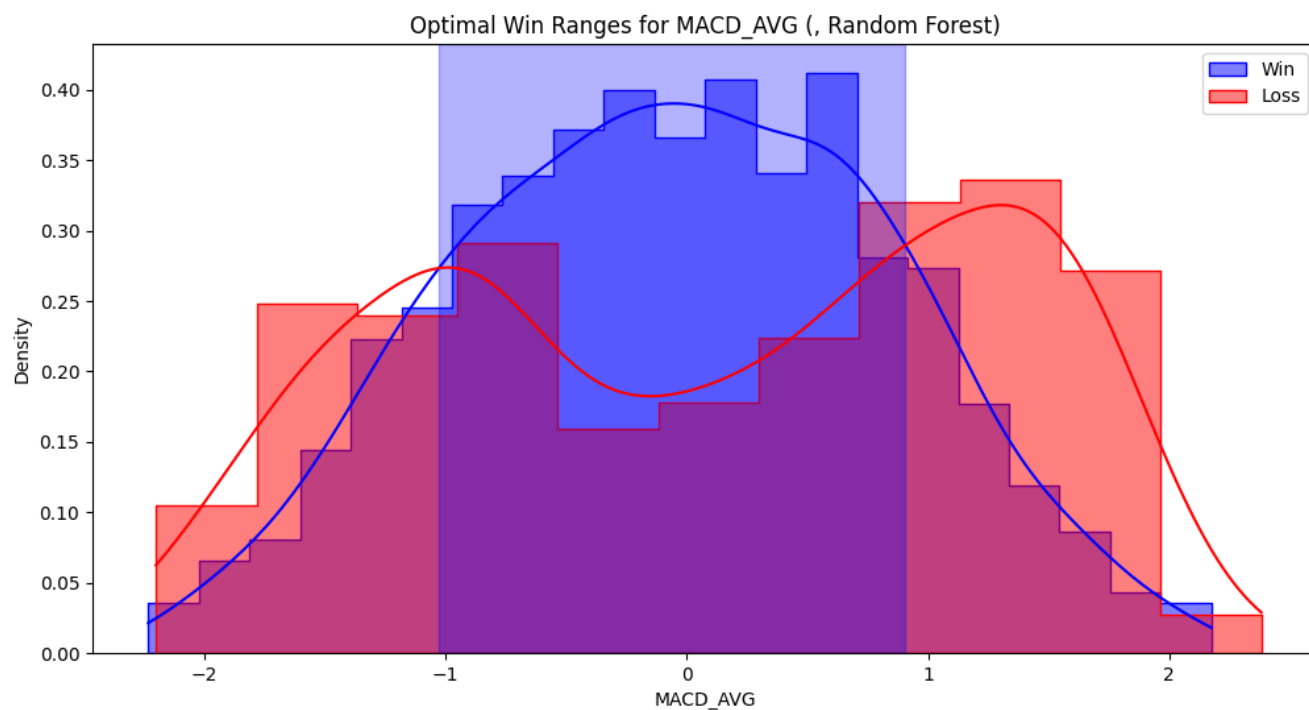
Optimal Win Ranges for ADX (, Random Forest)



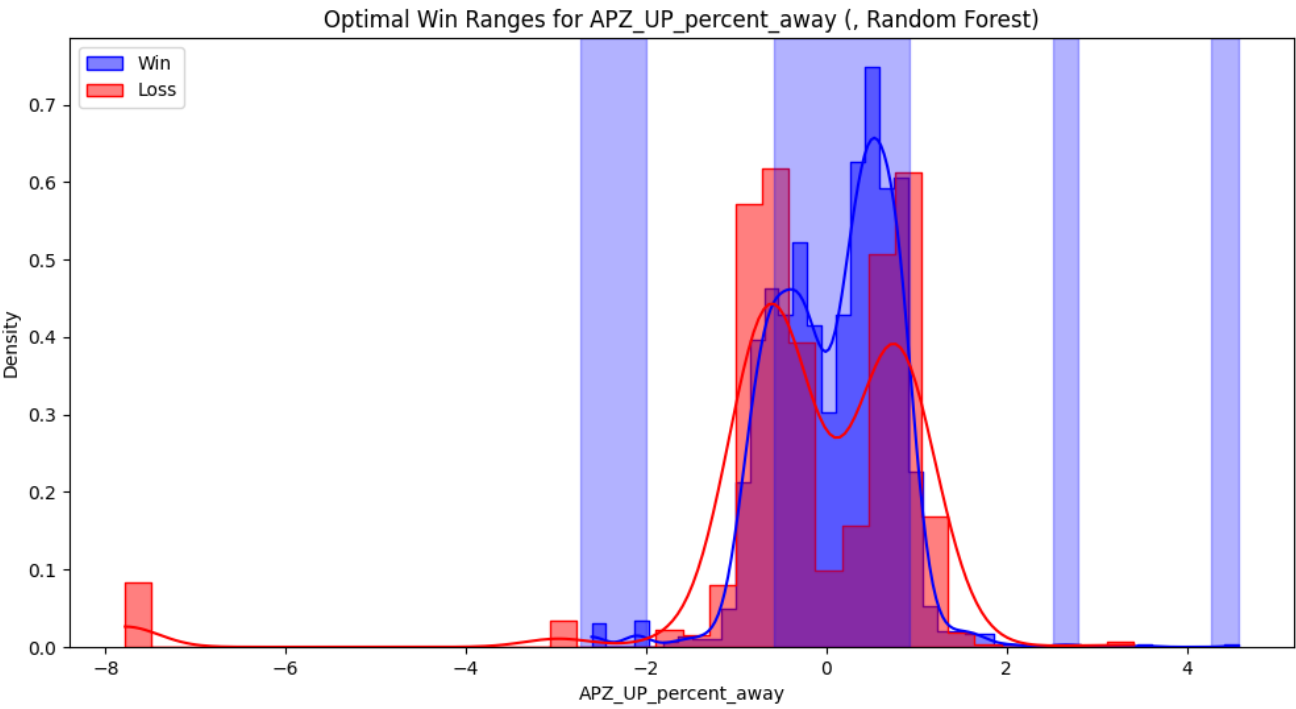
Optimal Win Ranges for MA_ENVELOPES_MID_percent_away (, Random Forest)



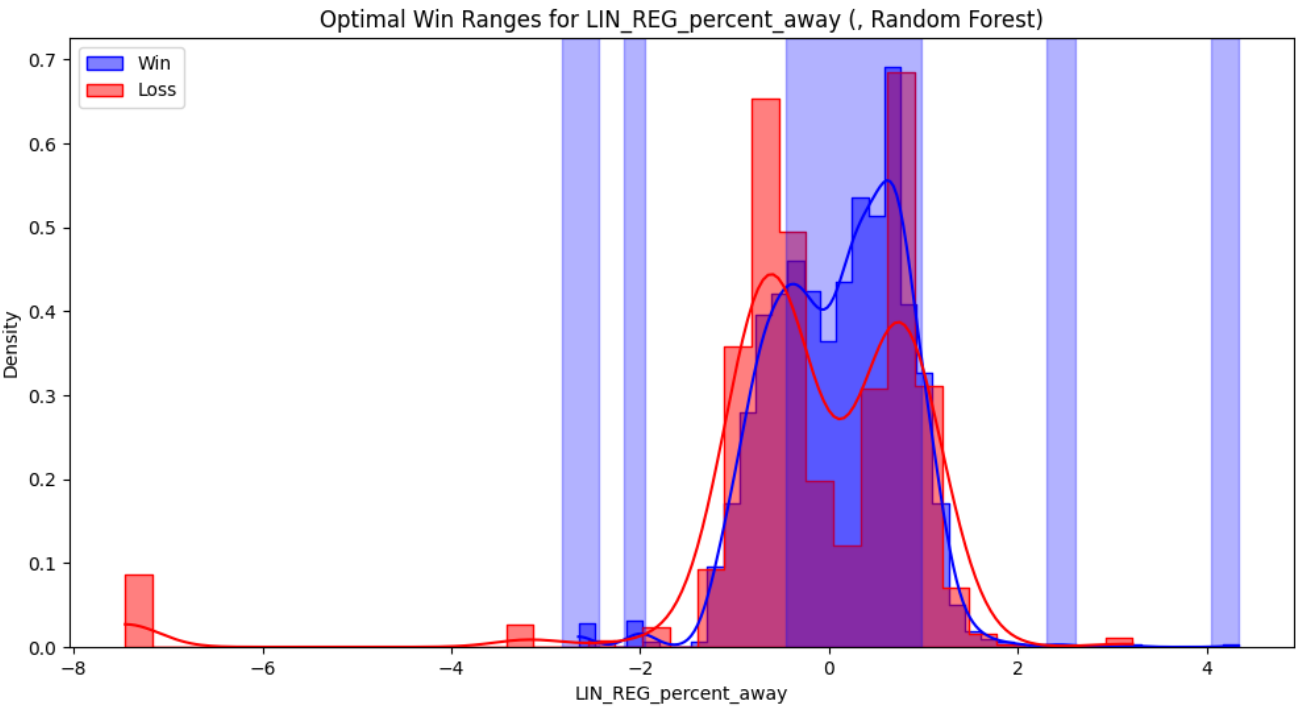
Optimal Win Ranges for MACD_AVG (, Random Forest)



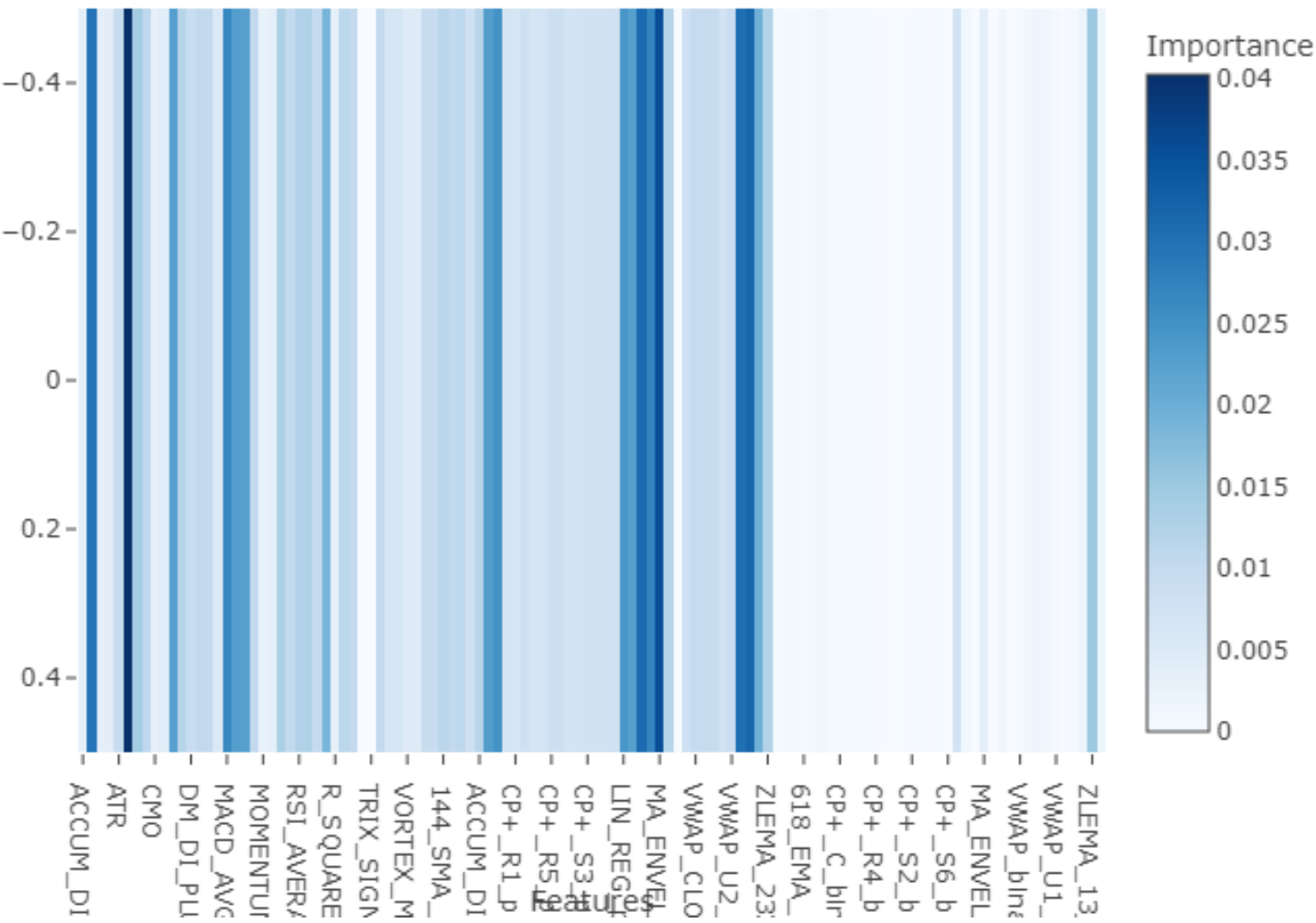
Optimal Win Ranges for APZ_UP_percent_away (, Random Forest)



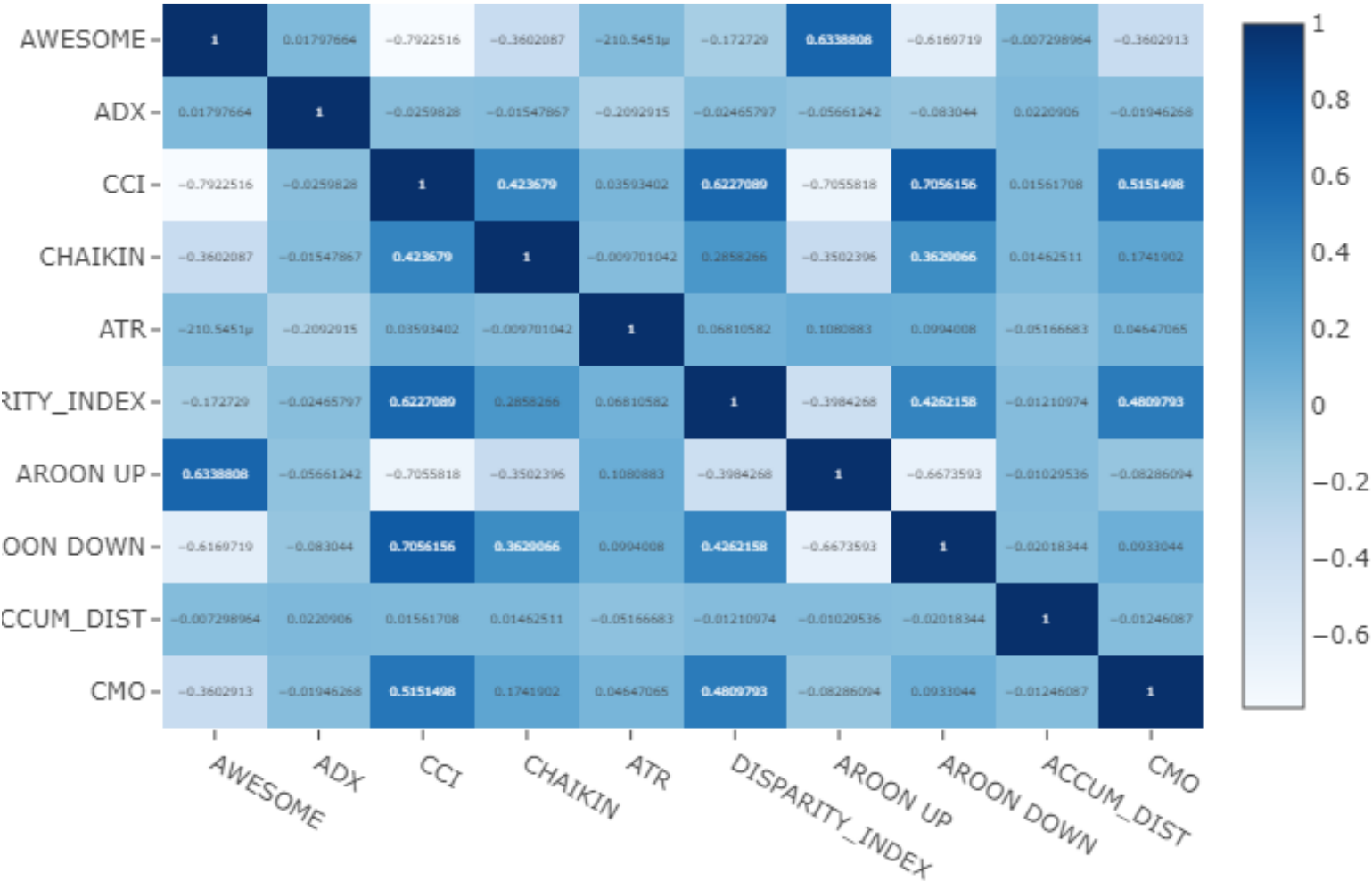
Optimal Win Ranges for LIN_REG_percent_away (, Random Forest)



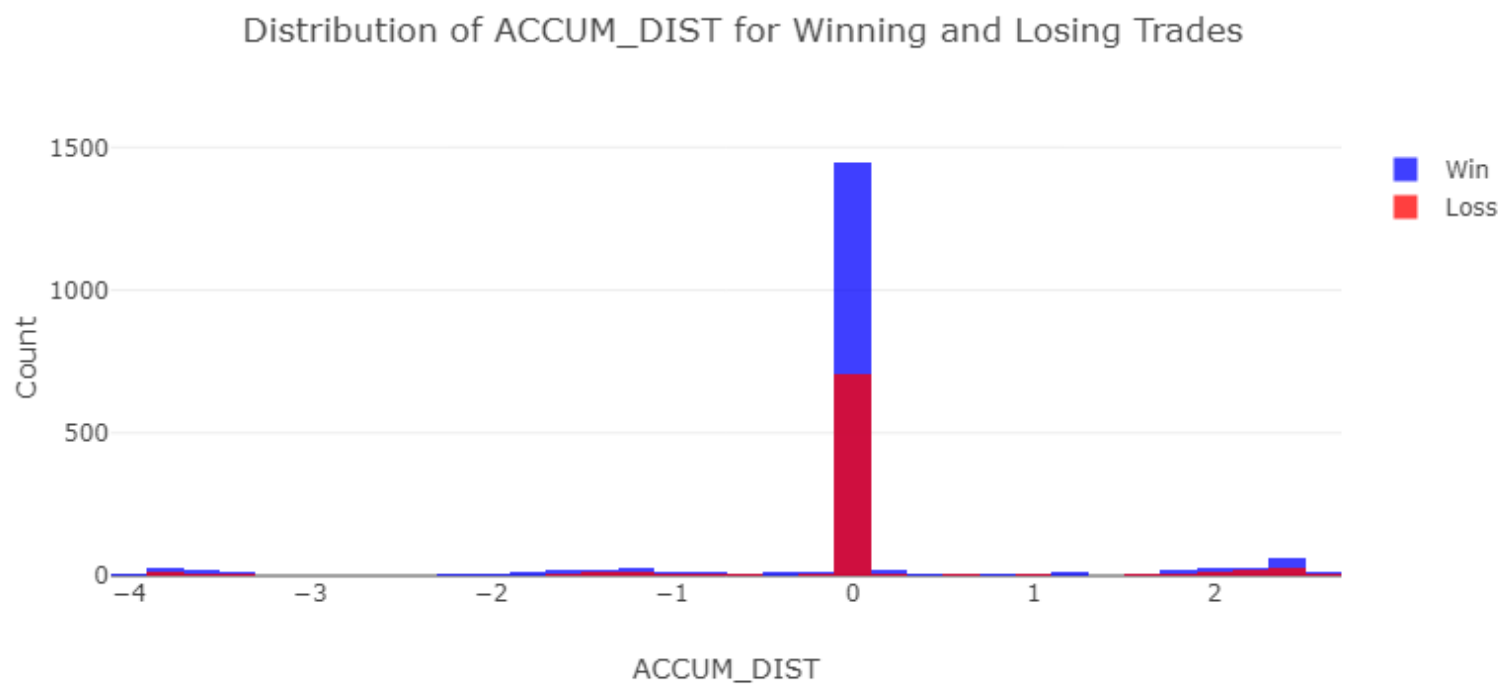
Feature Importance Heatmap



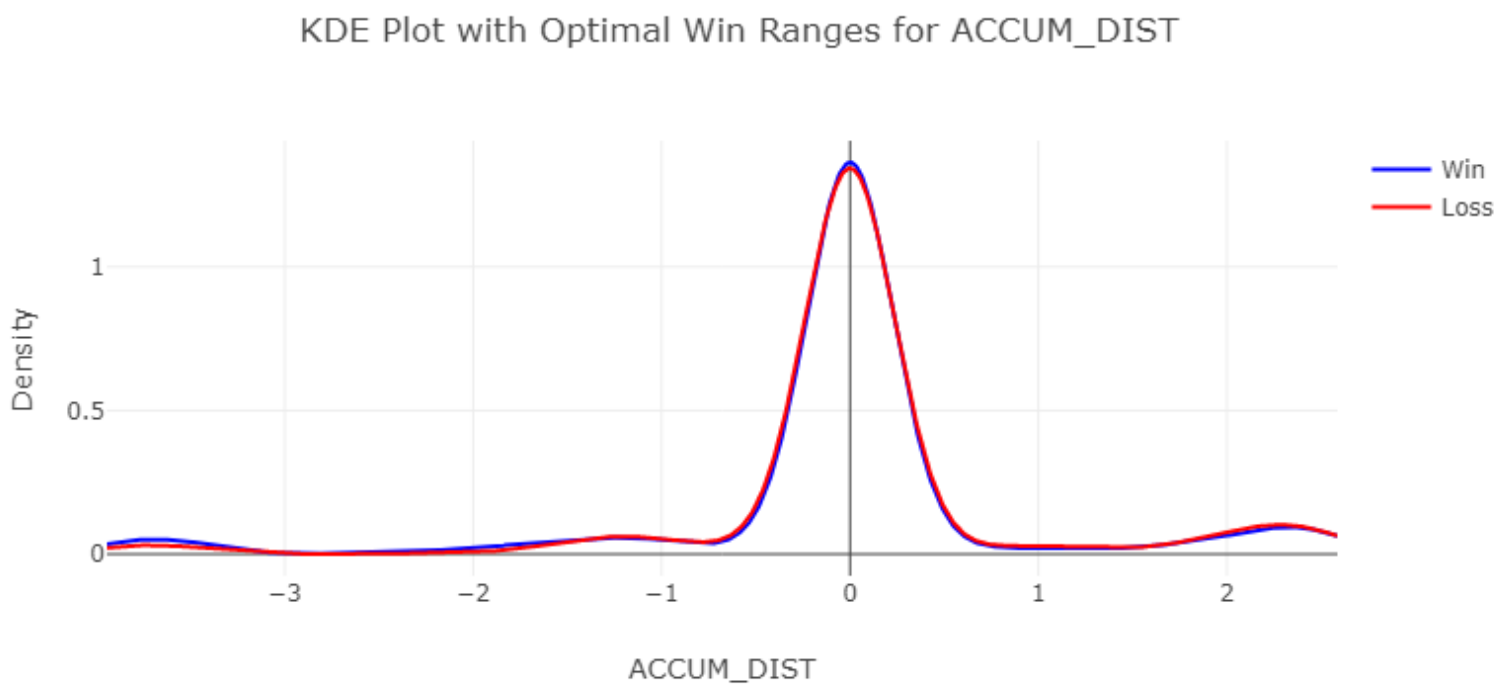
Correlation Matrix of Top Indicators



Distribution of ACCUM_DIST for Winning and Losing Trades



KDE Plot with Optimal Win Ranges for ACCUM_DIST



Mean Indicator Values for Losses

