#### Data search report

Datetime: 2023-11-12 11:10 UTC

**Search ID:** 6f44ea5a-861d-4bc4-b78d-bed9ecabb776

Initiator: demo\_user@upgini.com

This report was generated automatically by Upgini.

The report shows a listing of relevant features for your ML task and accuracy metrics after enrichment.

#### All relevant features. Accuracy after enrichment

Dataset type	Rows	Mean target	Baseline mean_squared_error	Enriched mean_squared_error	Uplift
Train	15148	49.9541	309.9905	199.6989	110.2916
Eval 1	3739	58.0011	509.2897	413.8654	95.4244

#### Relevant data sources

Provider	Provider Source		Number of relevant features	
<u>Upgini</u>	AutoFE: features from Calendar data	0.1341	15	Request a quote
<u>Upgini</u>	Weather & climate normals data	0.0337	10	Request a quote
<u>Upgini</u>	AutoFE: features from <u>Calendar data, Markets</u> <u>data</u>	0.0182	17	Request a quote
<u>Upgini</u>	Markets data	0.0037	6	Request a quote
<u>Upgini</u>	AutoFE: features from Markets data	0.0029	7	Request a quote
<u>Upgini</u>	World economic indicators	0.0007	4	Request a quote
<u>Upgini</u>	AutoFE: feature from Markets data	0.0004	1	Request a quote
<u>Upgini</u>	Calendar data	0.0002	1	Request a quote

#### All relevant features. Listing

Feature name	SHAP value	Coverage %	Value preview	Provider	Source	Feature type
f_autofe_max_1050	0.0567	100.0000	0.4211, 0.4054, -0.8653	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_min_268	0.0504	100.0000	-0.7397, 0.967, -0.6321	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_max_1129	0.0204	100.0000	-0.9577, 0.9976, -0.2009	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_weather_date_weather_um ap_47_5123ef0a	0.0100	100.0000	5.5728, 6.0713, 5.3073	Upgini	Weather & climate normals data	Premium
f_weather_date_weather_um ap_48_b39cd0c4	0.0097	100.0000	5.6983, 4.9338, 4.9811	Upgini	Weather & climate normals data	Premium
f_weather_date_weather_um ap_31_fa6d9a99	0.0080	100.0000	4.778, 4.8403, 5.1943	Upgini	Weather & climate normals data	Premium
f_autofe_min_291	0.0053	100.0000	-0.005, 0.039, 0.003	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_div_1999	0.0028	100.0000	0.0113, -0.0094, 0.027	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_financial_date_gold_7d_ to_1y_ae310379	0.0024	100.0000	0.968, 0.9564, 1.1305	Upgini	Markets data	Free
f_weather_date_weather_um ap_34_c3ef5b4f	0.0024	100.0000	4.7112, 4.7362, 5.2905	Upgini	Weather & climate normals data	Premium
f_weather_date_weather_pc a_0_d7e0a1fc	0.0021	100.0000	15.3308, -27.8823, 26.0251	Upgini	Weather & climate normals data	Premium
f_autofe_div_2039	0.0020	100.0000	-0.7407, 0.4357, -0.893	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free

f_autofe_min_303	0.0018	100.0000	0.2, -0.13, -0.11	Upgini	AutoFE: features from Calendar data, Markets data	Free
f_autofe_min_274	0.0013	100.0000	-0.6085, -0.7583, -0.7354	Upgini	AutoFE: features from Calendar	Free
f_autofe_div_2637	0.0012	100.0000	0.0022, 0.0032, 0.0024	Upgini	AutoFE: features from Markets data	Free
f_autofe_max_1056	0.0011	100.0000	0.8359, -0.538, 0.4925	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_min_312	0.0010	100.0000	0.2051, -0.89, -0.9657	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_div_2037	0.0010	100.0000	-0.0029, -0.0107, -0.0102	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u> , <u>Markets data</u>	Free
f_autofe_min_188	0.0008	100.0000	-0.7818, -0.2225, -0.901	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_max_1130	0.0007	100.0000	-0.7086, -0.6666, 0.9668	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_weather_date_weather_um ap_7_6ef8b038	0.0007	100.0000	4.3488, 5.1408, 6.9092	Upgini	Weather & climate normals data	Premium
f_autofe_max_1457	0.0007	100.0000	0.9014, 0.7881, 0.7215	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_autofe_min_644	0.0006	100.0000	0.9992, 1.1092, 0.9916	Upgini	AutoFE: features from Markets data	Free
f_autofe_min_300	0.0006	100.0000	-1.55, -0.01, 0.22	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_min_330	0.0005	100.0000	0.06, -1.0, -0.046	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_autofe_div_2038	0.0005	100.0000	-0.6772, 0.0563, -0.8419	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_div_1961	0.0005	100.0000	-0.3762, -0.9657, -0.2071	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_max_1074	0.0005	100.0000	0.216, -0.165, -0.078	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_min_329	0.0004	100.0000	-0.3767, -0.228, -0.1114	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_max_1135	0.0004	100.0000	0.1199, -0.1373, 0.8827	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_min_189	0.0004	100.0000	0.263, -0.6964, -0.9416	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_div_2000	0.0004	100.0000	-0.9059, 0.8302, -0.7425	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_financial_date_usd_eur_ 7d_to_1y_autofe_residual_ 181	0.0004	100.0000	0.1399, 0.9215, 0.9895	Upgini	AutoFE: feature from Markets data	Free
f_weather_date_weather_um ap_33_89bb7578	0.0004	100.0000	4.997, 4.7606, 4.9585	Upgini	Weather & climate normals data	Premium
f_autofe_min_269	0.0004	100.0000	-0.0429, -0.9473, 0.5416	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_financial_date_stoxx_04 3cbcd4	0.0003	100.0000	370.24, 319.54, 308.75	Upgini	Markets data	Free
f_financial_date_nasdaq_7 d_to_1y_b00bfaa7	0.0003	100.0000	1.0793, 1.0214, 1.0962	Upgini	Markets data	Free
f_financial_date_natural_ gas_7d_to_7d_1y_shift_a5c 3c07f	0.0003	100.0000	1.5059, 0.5147, 0.6018	Upgini	Markets data	Free
f_financial_date_usd_eur_ 7d_to_1y_200e4902	0.0003	100.0000	0.9697, 1.0767, 0.9941	Upgini	Markets data	Free
f_economic_date_cbpol_uma p_4_c5ce4e90	0.0003	100.0000	8.5682, 8.0858, 6.2307	Upgini	World economic indicators	Free
f_autofe_min_306	0.0003	100.0000	-1.21, -0.2, -0.16	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free

f_autofe_div_2368	0.0003	100.0000	0.8087, 0.4669, 0.9423	Upgini	AutoFE: features from Markets data	Free
f_autofe_div_1921	0.0003	100.0000	0.624, -0.2802, 0.886	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_autofe_div_2648	0.0003	100.0000	1.0953, 0.9457, 0.9839	Upgini	AutoFE: features from Markets data	Free
f_autofe_max_1087	0.0003	100.0000	0.7856, 1.132, 0.7507	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u> , <u>Markets data</u>	Free
f_autofe_min_606	0.0003	100.0000	0.8, -0.55, -0.6995	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_economic_date_cbpol_pca _2_33d6e3fc	0.0002	100.0000	2.4464, 1.0419, 1.0785	Upgini	World economic indicators	Free
f_autofe_div_2506	0.0002	100.0000	1.1819, 1.1144, 1.0376	Upgini	AutoFE: features from Markets data	Free
f_autofe_min_311	0.0002	100.0000	-0.7624, -0.5221, 0.1543	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_events_date_year_cos1_9 014a856	0.0002	100.0000	-0.6187, 0.8521, 0.9577	Upgini	Calendar data	Free
f_weather_date_weather_um ap_1_68679173	0.0002	100.0000	8.8765, -2.445, 4.5716	Upgini	Weather & climate normals data	Premium
f_autofe_max_1736	0.0002	100.0000	0.8269, 0.8494, 1.5577	Upgini	AutoFE: features from Markets data	Free
f_weather_date_weather_pc a_1_9e4af931	0.0001	100.0000	18.6983, 0.4954, 17.0269	Upgini	Weather & climate normals data	Premium
f_autofe_min_653	0.0001	100.0000	0.8124, 0.5886, 1.1488	Upgini	AutoFE: features from Markets data	Free
f_weather_date_weather_um ap_22_0342ee9e	0.0001	100.0000	4.308, 4.8899, 5.0747	Upgini	Weather & climate normals data	Premium
f_economic_date_cci_pca_5 _b433b3c8	0.0001	100.0000	-2.3926, 3.8893, -0.362	Upgini	World economic indicators	Free
f_economic_date_cbpol_pca _9_bde660b4	0.0001	100.0000	-1.7098, 2.2548, -1.4308	Upgini	World economic indicators	Free
f_financial_date_nasdaq_7 d_to_7d_1y_shift_4a4dd6ce	0.0001	100.0000	1.0653, 1.0406, 1.3316	Upgini	Markets data	Free
f_autofe_max_1055	0.0001	100.0000	-0.5667, 0.9806, -0.7056	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_max_1315	0.0001	100.0000	0.6085, -0.8498, -0.921	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_max_1134	0.0001	100.0000	-0.7177, -0.5307, -0.866	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free

### **Description of AutoFE feature names**

Sources	Feature name	Feature 1	Feature 2	Function
Calendar data, Markets data	f_autofe_div_1921	f_events_date_week_cos1_f6a8c1fc	f_financial_date_crude_oil_7d_to_1y_c3e0ad17	div
Calendar data, Markets data	f_autofe_div_1961	f_events_date_week_cos3_7525fe31	f_financial_date_crude_oil_7d_to_1y_c3e0ad17	div
Calendar data, Markets data	f_autofe_div_1999	f_events_date_week_sin1_847b5db1	f_financial_date_crude_oil_1f195998	div
Calendar data,Markets data	f_autofe_div_2000	f_events_date_week_sin1_847b5db1	f_financial_date_crude_oil_7d_to_1y_c3e0ad17	div
Calendar data, Markets data	f_autofe_div_2037	f_events_date_year_cos1_9014a856	f_financial_date_crude_oil_1f195998	div
Calendar data, Markets data	f_autofe_div_2038	f_events_date_year_cos1_9014a856	f_financial_date_crude_oil_7d_to_1y_c3e0ad17	div
Calendar data, Markets data	f_autofe_div_2039	f_events_date_year_cos1_9014a856	f_financial_date_crude_oil_7d_to_7d_1y_shift_71	81 <b>dilie</b> ef
Markets data	f_autofe_div_2368	f_financial_date_crude_oil_7d_to_1y_c3e0ad17	f_financial_date_nasdaq_7d_to_7d_1y_shift_4a4	ddiae
Markets data	f_autofe_div_2506	f_financial_date_nasdaq_7d_to_7d_1y_shift_4a4	dd@cienancial_date_stoxx_7d_to_1y_2ea815f4	div
Markets data	f_autofe_div_2637	f_financial_date_silver_7d_to_7d_1y_shift_55fa80	01_financial_date_stoxx_043cbcd4	div
Markets data	f_autofe_div_2648	f_financial_date_silver_7d_to_7d_1y_shift_55fa80	01_financial_date_vix_7d_to_1y_634c77eb	div

Calendar data	f_autofe_max_1050	f_events_date_week_cos1_f6a8c1fc	f_events_date_year_cos1_9014a856	max
Calendar data	f_autofe_max_1055	f_events_date_week_cos1_f6a8c1fc	f_events_date_year_sin1_3c44bc64	max
<u>Calendar data</u>	f_autofe_max_1056	f_events_date_week_cos1_f6a8c1fc	f_events_date_year_sin2_59955ffd	max
Calendar data, Markets data	f_autofe_max_1074	f_events_date_week_cos1_f6a8c1fc	f_financial_date_silver_gap_f5b63f5b	max
Calendar data, Markets data	f_autofe_max_1087	f_events_date_week_cos1_f6a8c1fc	f_financial_date_vix_7d_to_1y_634c77eb	max
<u>Calendar data</u>	f_autofe_max_1129	f_events_date_week_sin1_847b5db1	f_events_date_year_cos1_9014a856	max
Calendar data	f_autofe_max_1130	f_events_date_week_sin1_847b5db1	f_events_date_year_cos2_7acbaf1b	max
Calendar data	f_autofe_max_1134	f_events_date_week_sin1_847b5db1	f_events_date_year_sin1_3c44bc64	max
Calendar data	f_autofe_max_1135	f_events_date_week_sin1_847b5db1	f_events_date_year_sin2_59955ffd	max
<u>Calendar data</u>	f_autofe_max_1315	f_events_date_year_cos6_7c1806a3	f_events_date_year_sin2_59955ffd	max
Calendar data, Markets data	f_autofe_max_1457	f_events_date_year_sin7_16d9d7c9	f_financial_date_silver_7d_to_7d_1y_shift_55fa8(	0 max
Markets data	f_autofe_max_1736	f_financial_date_natural_gas_7d_to_7d_1y_shift_	a5/c <b>8o@7/</b> cial_date_vix_7d_to_1y_634c77eb	max
<u>Calendar data</u>	f_autofe_min_188	f_events_date_week_cos1_f6a8c1fc	f_events_date_week_sin1_847b5db1	min
<u>Calendar data</u>	f_autofe_min_189	f_events_date_week_cos1_f6a8c1fc	f_events_date_year_cos1_9014a856	min
<u>Calendar data</u>	f_autofe_min_268	f_events_date_week_sin1_847b5db1	f_events_date_year_cos1_9014a856	min
<u>Calendar data</u>	f_autofe_min_269	f_events_date_week_sin1_847b5db1	f_events_date_year_cos2_7acbaf1b	min
<u>Calendar data</u>	f_autofe_min_274	f_events_date_week_sin1_847b5db1	f_events_date_year_sin2_59955ffd	min
Calendar data, Markets data	f_autofe_min_291	f_events_date_week_sin1_847b5db1	f_financial_date_silver_daydiff_25cf4951	min
Calendar data, Markets data	f_autofe_min_300	f_events_date_week_sin1_847b5db1	f_financial_date_usd_daydiff_8bcdeec4	min
Calendar data, Markets data	f_autofe_min_303	f_events_date_week_sin1_847b5db1	f_financial_date_usd_gap_615a0ec0	min
Calendar data, Markets data	f_autofe_min_306	f_events_date_week_sin1_847b5db1	f_financial_date_vix_gap_b64bd2b9	min
Calendar data	f_autofe_min_311	f_events_date_year_cos1_9014a856	f_events_date_year_sin1_3c44bc64	min
<u>Calendar data</u>	f_autofe_min_312	f_events_date_year_cos1_9014a856	f_events_date_year_sin2_59955ffd	min
Calendar data, Markets data	f_autofe_min_329	f_events_date_year_cos1_9014a856	f_financial_date_silver_daydiff_25cf4951	min
Calendar data, Markets data	f_autofe_min_330	f_events_date_year_cos1_9014a856	f_financial_date_silver_gap_f5b63f5b	min
Calendar data, Markets data	f_autofe_min_606	f_events_date_year_sin7_16d9d7c9	f_financial_date_usd_daydiff_8bcdeec4	min
Markets data	f_autofe_min_644	f_financial_date_crude_oil_7d_to_1y_c3e0ad17	f_financial_date_gold_7d_to_1y_ae310379	min
Markets data	f_autofe_min_653	f_financial_date_crude_oil_7d_to_1y_c3e0ad17	f_financial_date_silver_7d_to_7d_1y_shift_55fa8(	Ofnin
AutoFE: feature from Markets data	f_financial_date_usd_eur_7d_to_1y_autofe_resid	uaf_fi64ncial_date_usd_eur_7d_to_1y_200e4902		

To buy found data sources, please contact: <a href="mailto:sales@upgini.com">sales@upgini.com</a>

Best regards, Upgini Team