### Data search report

Datetime: 2023-11-12 11:26 UTC

**Search ID:** a4f684a0-3628-448c-9c1c-a16b515f4b4a

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 <u>Calendar data</u>	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>	<u>Calendar data</u>	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	0.1284, -0.3008, -0.1159	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_min_268	0.0504	100.0000	-0.9416, 0.7397, -0.5724	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_max_1129	0.0204	100.0000	0.5416, -0.2844, 0.8239	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_weather_date_weather_um ap_47_5123ef0a	0.0100	100.0000	4.8818, 5.3225, 6.0108	Upgini	Weather & climate normals data	Premium
f_weather_date_weather_um ap_48_b39cd0c4	0.0097	100.0000	5.6525, 5.2777, 5.1261	Upgini	Weather & climate normals data	Premium
f_weather_date_weather_um ap_31_fa6d9a99	0.0080	100.0000	4.7265, 4.8662, 5.0668	Upgini	Weather & climate normals data	Premium
f_autofe_min_291	0.0053	100.0000	0.16, 0.061, 0.053	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_div_1999	0.0028	100.0000	0.0095, -0.0131, -0.008	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	0.924, 0.9951, 0.9355	Upgini	Markets data	Free
f_weather_date_weather_um ap_34_c3ef5b4f	0.0024	100.0000	5.186, 4.7522, 5.5017	Upgini	Weather & climate normals data	Premium
f_weather_date_weather_pc a_0_d7e0a1fc	0.0021	100.0000	18.9064, -23.5162, 27.9207	Upgini	Weather & climate normals data	Premium
f_autofe_div_2039	0.0020	100.0000	-0.5109, -0.3575, 1.0291	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free

f_autofe_min_303	0.0018	100.0000	-0.04, -1.11, -0.47	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_min_274	0.0013	100.0000	-0.8115, -0.043, -0.0515	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_div_2637	0.0012	100.0000	0.0021, 0.003, 0.0033	Upgini	AutoFE: features from Markets data	Free
f_autofe_max_1056	0.0011	100.0000	0.9456, 0.9887, -0.3617	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_min_312	0.0010	100.0000	-0.6839, -0.3847, -0.7041	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_div_2037	0.0010	100.0000	-0.0223, 0.0179, 0.0061	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_min_188	0.0008	100.0000	-0.901, -0.2225, -0.901	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_max_1130	0.0007	100.0000	0.7818, -0.2129, 0.0215	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_weather_date_weather_um ap_7_6ef8b038	0.0007	100.0000	3.3309, 5.2534, 3.8572	Upgini	Weather & climate normals data	Premium
f_autofe_max_1457	0.0007	100.0000	0.6571, 0.9514, 0.6383	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_autofe_min_644	0.0006	100.0000	0.7274, 0.9226, 0.5834	Upgini	AutoFE: features from Markets data	Free
f_autofe_min_300	0.0006	100.0000	-1.05, 0.05, 0.08	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_min_330	0.0005	100.0000	-0.8945, -0.0473, -0.275	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_autofe_div_2038	0.0005	100.0000	-0.9558, 0.9824, 0.2806	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_div_1961	0.0005	100.0000	-0.2114, -0.7834, -0.2145	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_max_1074	0.0005	100.0000	0.343, 0.061, -0.04	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_min_329	0.0004	100.0000	-0.9231, -0.097, -0.882	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free
f_autofe_max_1135	0.0004	100.0000	-0.425, 0.9999, 0.7803	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_min_189	0.0004	100.0000	0.8617, 0.9711, 0.9088	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_div_2000	0.0004	100.0000	-0.7229, -0.4307, 0.4284	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_financial_date_usd_eur_ 7d_to_1y_autofe_residual_ 181	0.0004	100.0000	0.9642, 0.0621, 0.052	Upgini	AutoFE: feature from Markets data	Free
f_weather_date_weather_um ap_33_89bb7578	0.0004	100.0000	5.2124, 5.3784, 4.6383	Upgini	Weather & climate normals data	Premium
f_autofe_min_269	0.0004	100.0000	0.4054, 0.9015, -0.0772	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_financial_date_stoxx_04 3cbcd4	0.0003	100.0000	287.79, 387.79, 322.72	Upgini	Markets data	Free
f_financial_date_nasdaq_7 d_to_1y_b00bfaa7	0.0003	100.0000	1.0284, 1.0898, 0.9212	Upgini	Markets data	Free
f_financial_date_natural_ gas_7d_to_7d_1y_shift_a5c 3c07f	0.0003	100.0000	0.7285, 1.1921, 0.692	Upgini	Markets data	Free
f_financial_date_usd_eur_ 7d_to_1y_200e4902	0.0003	100.0000	1.141, 0.954, 1.0036	Upgini	Markets data	Free
f_economic_date_cbpol_uma p_4_c5ce4e90	0.0003	100.0000	1.9439, 1.7375, 2.0712	Upgini	World economic indicators	Free
f_autofe_min_306	0.0003	100.0000	-0.84, 0.68, 0.14	Upgini	AutoFE: features from <u>Calendar</u> <u>data,Markets data</u>	Free

f_autofe_div_2368	0.0003	100.0000	0.8257, 0.8452, 1.1872	Upgini	AutoFE: features from Markets data	Free
f_autofe_div_1921	0.0003	100.0000	-0.8038, 0.6436, 0.9991	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_autofe_div_2648	0.0003	100.0000	2.0344, 0.9964, 0.5007	Upgini	AutoFE: features from Markets data	Free
f_autofe_max_1087	0.0003	100.0000	1.4164, 0.8847, 0.7933	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u> , <u>Markets data</u>	Free
f_autofe_min_606	0.0003	100.0000	-0.634, -0.8983, -0.1202	Upgini	AutoFE: features from <u>Calendar</u> data, <u>Markets data</u>	Free
f_economic_date_cbpol_pca _2_33d6e3fc	0.0002	100.0000	1.9179, 1.0378, 2.9365	Upgini	World economic indicators	Free
f_autofe_div_2506	0.0002	100.0000	1.0424, 1.0324, 1.136	Upgini	AutoFE: features from Markets data	Free
f_autofe_min_311	0.0002	100.0000	-0.1202, -0.7856, -0.8438	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_events_date_year_cos1_9 014a856	0.0002	100.0000	0.947, -1.0, -0.1961	Upgini	Calendar data	Free
f_weather_date_weather_um ap_1_68679173	0.0002	100.0000	-2.7445, 5.4316, 3.5582	Upgini	Weather & climate normals data	Premium
f_autofe_max_1736	0.0002	100.0000	1.3344, 1.5222, 1.6653	Upgini	AutoFE: features from Markets data	Free
f_weather_date_weather_pc a_1_9e4af931	0.0001	100.0000	15.6005, -12.5798, -10.8898	Upgini	Weather & climate normals data	Premium
f_autofe_min_653	0.0001	100.0000	0.8603, 1.0884, 0.6269	Upgini	AutoFE: features from Markets data	Free
f_weather_date_weather_um ap_22_0342ee9e	0.0001	100.0000	5.1064, 4.3197, 4.8673	Upgini	Weather & climate normals data	Premium
f_economic_date_cci_pca_5 _b433b3c8	0.0001	100.0000	7.5479, 2.1427, 4.1083	Upgini	World economic indicators	Free
f_economic_date_cbpol_pca _9_bde660b4	0.0001	100.0000	-2.253, -1.084, 1.9218	Upgini	World economic indicators	Free
f_financial_date_nasdaq_7 d_to_7d_1y_shift_4a4dd6ce	0.0001	100.0000	1.3056, 1.2201, 1.0543	Upgini	Markets data	Free
f_autofe_max_1055	0.0001	100.0000	-0.7749, -0.6681, 0.9369	Upgini	AutoFE: features from <u>Calendar</u> <u>data</u>	Free
f_autofe_max_1315	0.0001	100.0000	0.9987, 0.6979, 0.815	Upgini	AutoFE: features from <u>Calendar</u> data	Free
f_autofe_max_1134	0.0001	100.0000	-0.4559, 0.82, -0.4172	Upgini	AutoFE: features from <u>Calendar</u> data	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>di6</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	0f_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 <u>c<b>\$o@7i</b>cial_</u> 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