Sarit_SilverPrice

Assistance

Routine Description importFiles Import file(s) into H₂O importSqlTable Import SQL table into H₂O Get a list of frames in H₂O getFrames X splitFrame Split a frame into two or more frames Merge two frames into one mergeFrames Get a list of models in H₂O getModels Get a list of grid search results in H₂O getGrids getPredictions Get a list of predictions in H2O Get a list of jobs running in H₂O getJobs ♣ runAutoML Automatically train and tune many models buildModel Build a model Import a saved model importModel predict Make a prediction

Import Files

Search: .\C.csv

Search Results: (All files added)

Selected Files: 1 file selected: Clear All

X.\C.csv

Actions: hmport

1 / 1 files imported.

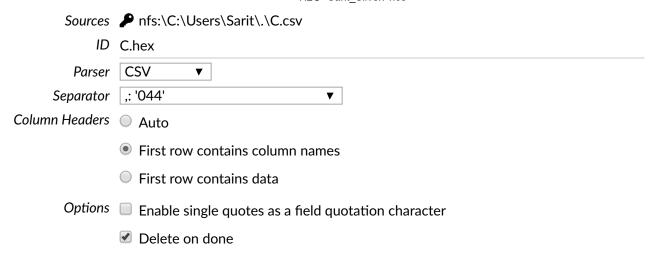
Files C:\Users\Sarit\.\C.csv

Actions Parse these files...

Setup Parse

PARSE CONFIGURATION

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EDIT COLUMN NAMES AND TYPES

Search by column name					
1	SilverPrice	Numeric ▼	5.335	5.17	5.127
2	ma_20	Numeric ▼	0.0	0.0	0.0
3	ma_100	Numeric ▼	0.0	0.0	0.0
4	std_20	Numeric ▼	0.0	0.0	0.0
5	std_100	Numeric ▼	0.0	0.0	0.0
6	rsi	Numeric ▼	0.0	0.0	0.0
7	Rolling Mea	Numeric ▼	0.0	0.0	0.0
8	Bollinger H	Numeric ▼	0.0	0.0	0.0
9	Bollinger L	Numeric ▼	0.0	0.0	0.0
10	26_ema	Numeric ▼	5.335	5.249326923076922	5.20537604
11	12_ema	Numeric ▼	5.335	5.2456249999999995	5.199325635
12	macd	Numeric ▼	0.0	-0.003701923076922853	-0.0060504
13	CCI	Numeric ▼	37.73927870320445	37.73927870320445	37.73927870
14	Index	Numeric ▼	1411.75	1413.5	1404.0
15	CrudeOilPri	Numeric ▼	25.55	24.91	24.78
← Previous page → Next page					

Parse

₹ Job

Run Time 00:00:00.228

Remaining Time 00:00:00.0

Type Frame

Key Q C.hex

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Description Parse

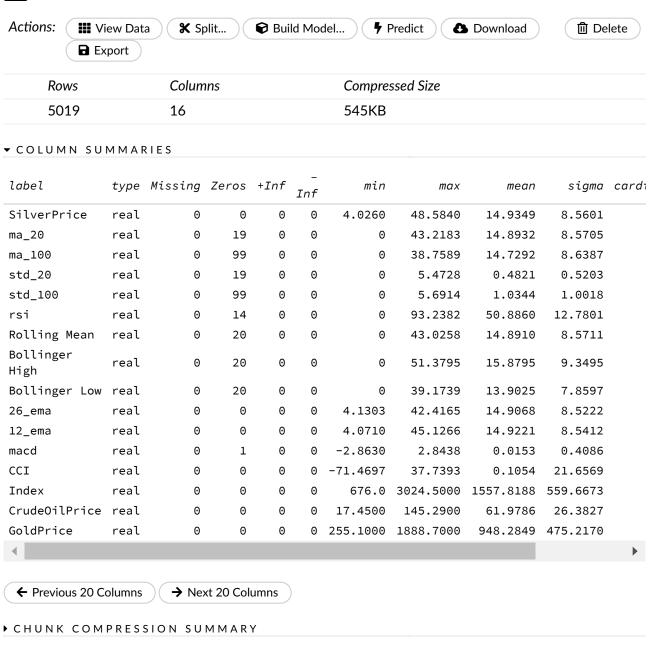
Status DONE

Progress 100%

Done.

Actions Q View

E C.hex



X Split Frame

▶ FRAME DISTRIBUTION SUMMARY

Frame: C.hex ▼

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 Splits:
 Ratio
 Key

 0.75
 frame_0.750
 X

 0.250
 frame_0.250

 Add a new split
 Seed: 270913

X Create

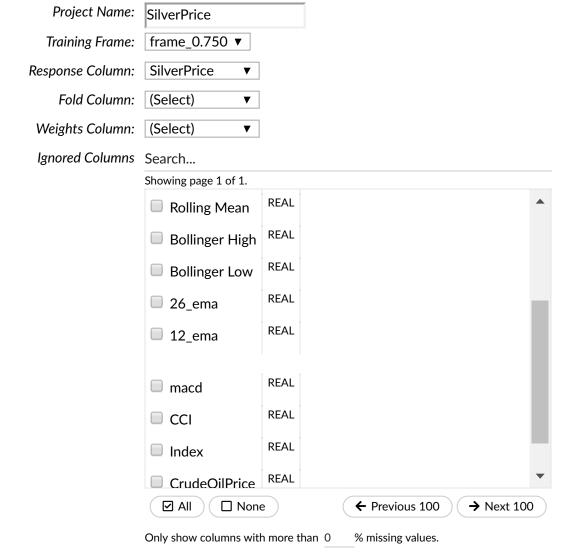
⊞ Split Frames

 Type
 Key
 Ratio

 ■ frame_0.750
 0.75

 ■ frame_0.250
 0.25

Run AutoML



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Blending Frame: (Select) Leaderboard Frame: (Select) Balance classes: Exclude these algorithms GLM DRF GBM XGBoost DeepLearning StackedEnsemble Max models to build: Max Run Time (sec): Early stopping metric: Leaderboard sort metric: Leaderboard sort metric: Early stopping rounds: Early stopping tolerance: nfolds: Keep cross-validation models Keep cross-validation models	Validation Frame:	frame_0.250 ▼
Exclude these algorithms	Blending Frame:	(Select) ▼
Exclude these algorithms GLM DRF GBM XGBoost DeepLearning StackedEnsemble Max models to build: Max Run Time (sec): AUTO Early stopping metric: Leaderboard sort metric: Early stopping rounds: Early stopping tolerance: nfolds: Keep cross-validation predictions Keep cross-validation models	Leaderboard Frame:	(Select) ▼
DRF GBM XGBoost DeepLearning StackedEnsemble Max models to build: Max Run Time (sec): 3600 Max Run Time Per Model (sec): Early stopping metric: AUTO Early stopping rounds: Sarly stopping tolerance: Infolds: Keep cross-validation predictions Keep cross-validation models	Balance classes:	
GBM XGBoost DeepLearning StackedEnsemble Max models to build: Max Run Time (sec): 3600 Max Run Time Per Model (sec): Early stopping metric: Leaderboard sort metric: AUTO Early stopping rounds: Salution Early stopping tolerance: Infolds: Keep cross-validation predictions Keep cross-validation models	Exclude these algorithms	☑ GLM
		✓ DRF
DeepLearning StackedEnsemble Max models to build: Max Run Time (sec): Max Run Time Per Model (sec): Early stopping metric: Leaderboard sort metric: Early stopping rounds: Early stopping tolerance: Infolds: Keep cross-validation predictions Keep cross-validation models		□ GBM
Max models to build: Max Run Time (sec): StackedEnsemble Max Run Time (sec): Early stopping metric: Leaderboard sort metric: Early stopping rounds: Early stopping tolerance: nfolds: Keep cross-validation predictions Keep cross-validation models ✓		✓ XGBoost
Max models to build: Max Run Time (sec): 3600 Max Run Time Per Model (sec): 0 Early stopping metric: AUTO ▼ Leaderboard sort metric: AUTO ▼ Early stopping rounds: 3 Early stopping tolerance: nfolds: 5 Keep cross-validation predictions Keep cross-validation models		DeepLearning
Max Run Time (sec): 3600 Max Run Time Per Model (sec): 0 Early stopping metric: AUTO ▼ Leaderboard sort metric: AUTO ▼ Early stopping rounds: 3 Early stopping tolerance: nfolds: 5 Keep cross-validation predictions ▼ Keep cross-validation models ▼		StackedEnsemble
Max Run Time Per Model (sec): Early stopping metric: Leaderboard sort metric: Early stopping rounds: Early stopping tolerance: nfolds: Keep cross-validation predictions Keep cross-validation models ✓	Max models to build:	
Early stopping metric: AUTO Leaderboard sort metric: AUTO Early stopping rounds: 3 Early stopping tolerance:	Max Run Time (sec):	3600
Leaderboard sort metric: AUTO Early stopping rounds: 3 Early stopping tolerance:	Max Run Time Per Model (sec):	0
Early stopping rounds: Early stopping tolerance: nfolds: Keep cross-validation predictions Keep cross-validation models	Early stopping metric:	AUTO ▼
Early stopping tolerance: nfolds: 5 Keep cross-validation predictions Keep cross-validation models	Leaderboard sort metric:	AUTO ▼
nfolds: 5 Keep cross-validation predictions ✓ Keep cross-validation models	Early stopping rounds:	3
Keep cross-validation predictions ✓ Keep cross-validation models	Early stopping tolerance:	
Keep cross-validation models ✓	nfolds:	5
	Keep cross-validation predictions	✓
Keen cross-validation fold.	Keep cross-validation models	
assignment	Keep cross-validation fold assignment	
Seed: -1	Seed:	-1
Checkpoints path:	Checkpoints path:	

Build Model

≨∃Job

Run Time 00:45:40.472

Remaining Time 00:00:00.0

Type Auto Model

Key Q SilverPrice

Description AutoML build

Status DONE

Progress 100%

Done.

Actions Q View

₹ Leaderboard

♂ Monitor Live

▼ MODELS

models sorted in order of mean_residual_deviance, best first 0.46235 47 DeepLearning_1_AutoML_20190830_220017 0.21376771236991918 GBM_grid_1_AutoML_20190830_220017_model_48 48 0.21503475762748353 0.46371 GBM_grid_1_AutoML_20190830_220017_model_41 0.23545867306352292 0.48524 49 GBM_grid_1_AutoML_20190830_220017_model_51 0.24534428075124695 0.49532 DeepLearning_grid_1_AutoML_20190830_220017_model_1 0.26486636723348794 0.51465 51 GBM_grid_1_AutoML_20190830_220017_model_12 0.42104819743661653 0.64888 52 GBM_grid_1_AutoML_20190830_220017_model_45 0.4249255952141951 0.65186 53 GBM_grid_1_AutoML_20190830_220017_model_49 0.44312157940700236 0.66567 GBM_grid_1_AutoML_20190830_220017_model_27 55 0.4752761817825564 0.68940 DeepLearning grid 1 AutoML 20190830 220017 model 2 0.8567756273038666 0.92562 DeepLearning_grid_1_AutoML_20190830_220017_model_4 57 4.436409764016831 2.10627 DeepLearning_grid_1_AutoML_20190830_220017_model_13 5.295919015128417 2.30128 58 DeepLearning_grid_1_AutoML_20190830_220017_model_14 59 9.68690725010097 3.11237 DeepLearning_grid_1_AutoML_20190830_220017_model_7 60 12.006265168099802 3.46500 DeepLearning_grid_1_AutoML_20190830_220017_model_5 61 13.64321264065561 3.69367 DeepLearning_grid_1_AutoML_20190830_220017_model_10 14.402648532453354 3.79508 62 DeepLearning_grid_1_AutoML_20190830_220017_model_6 15.423408593391235 3.92726 DeepLearning_grid_1_AutoML_20190830_220017_model_9 4.15179 64 17.237440091388578 DeepLearning_grid_1_AutoML_20190830_220017_model_11 18.47633495318036 4.29841 65 DeepLearning_grid_1_AutoML_20190830_220017_model_8 24.3268730989703 4.93222 GBM_grid_1_AutoML_20190830_220017_model_76 67 25.863040848213558 5.08557 DeepLearning_grid_1_AutoML_20190830_220017_model_12 26.77742609972791 5.17469 GBM_grid_1_AutoML_20190830_220017_model_77 38.65056648449788 6.21695 DeepLearning grid 1 AutoML 20190830 220017 model 15 51.68915611197705 7.18951

▼ EVENT LOG

Actions taken and discoveries made by AutoML

	timestamp	level	stage	message
0	22:00:17.508	Info	Workflow	Project: SilverPrice
1	22:00:17.508	Info	Workflow	AutoML job created: 2019.08.30 22:00:17.501
2	22:00:17.510	Info	ModelTraining	Disabling Algo: DRF as requested by the user.

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				-	
	timestamp	level	stage	message	
3	22:00:17.510	Info	ModelTraining	Disabling Algo: GLM as requested by the user.	
4	22:00:17.510	Info	ModelTraining	Disabling Algo: XGBoost as requested by the use	r
5	22:00:17.510	Info	Workflow	Build control seed: -1 (random)	
6	22:00:17.511	Info	DataImport	<pre>training frame: Frame key: automl_training_frame_0.750 cols: 16 rows: 3793 chunks: 32 size: 430632 checksum: -3926529998710228360</pre>	
7	22:00:17.511	Info	DataImport	validation frame: Frame key: frame_0.250 cols: rows: 1226 chunks: 32 size: 164052 checksum: -5155054775964776879	1
8	22:00:17.512	Info	DataImport	leaderboard frame: NULL	
9	22:00:17.512	Info	DataImport	response column: SilverPrice	
10	22:00:17.512	Info	DataImport	fold column: null	
11	22:00:17.512	Info	DataImport	weights column: null	
12	22:00:17.561	Info	Workflow	Setting stopping tolerance adaptively based on the training frame: 0.016237104234287182	
13	22:00:17.570	Info	Workflow	AutoML build started: 2019.08.30 22:00:17.569	
14	22:00:17.582	Debug	ModelTraining	GBM 1 started	
15	22:00:23.643	Debug	ModelTraining	GBM 1 complete	•
4					

♥ Model

Model ID: GBM_grid_1_AutoML_20190830_220017_model_6

Algorithm: Gradient Boosting Machine

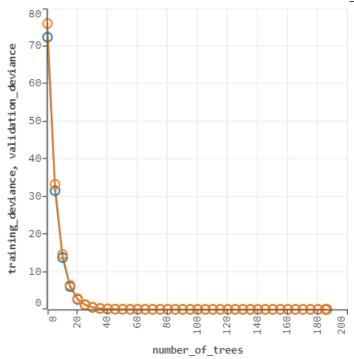
Actions: Predict... Download POJO

Lownload Model Deployment Package (MOJO)
 Delete
 Inspect
 Delete

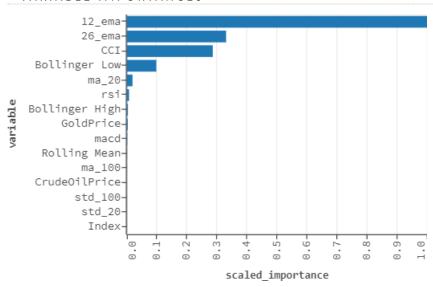
▲ Download Gen Model

▶ MODEL PARAMETERS

▼ SCORING HISTORY - DEVIANCE



▼ VARIABLE IMPORTANCES



▶ OUTPUT

- ▶ COLUMN_TYPES
- ▶ CROSS_VALIDATION_MODELS
- ▶ CROSS_VALIDATION_PREDICTIONS
- ▶ OUTPUT MODEL SUMMARY
- ▶ OUTPUT SCORING HISTORY
- ▼ OUTPUT TRAINING_METRICS

```
model GBM_grid_1_AutoML_20190830_220017_model_6

model_checksum -6725453809259892844

frame automl_training_frame_0.750

frame_checksum -3926529998710228360

description ·

model_category Regression

scoring_time 1567173718814

predictions ·

MSE 0.007625

RMSE 0.087321

nobs 3793

custom_metric_name ·

custom_metric_value 0
```

rmsle 0.005229

r2 0.999895

▼ OUTPUT - VALIDATION_METRICS

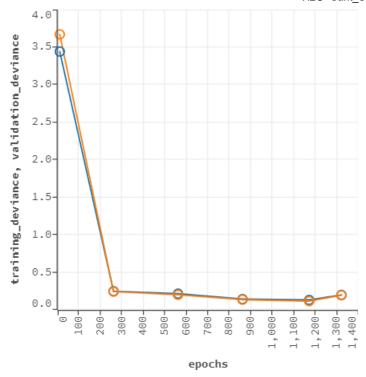
```
model GBM_grid_1_AutoML_20190830_220017_model_6
        model_checksum -6725453809259892844
                 frame frame_0.250
        frame_checksum -5155054775964776879
           description ·
        model_category Regression
          scoring_time 1567173718815
           predictions ·
                  MSE 0.037099
                 RMSE 0.192610
                 nobs 1226
   custom_metric_name .
   custom_metric_value 0
                   r2 0.999512
mean_residual_deviance 0.037099
                  mae 0.103899
                 rmsle 0.009366
```

▼ OUTPUT - CROSS_VALIDATION_METRICS

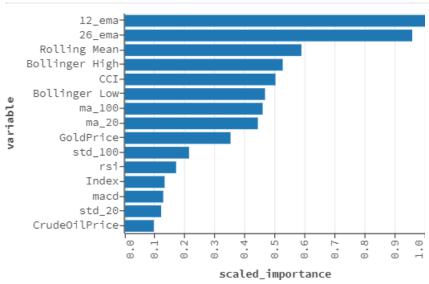
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```
model GBM_grid_1_AutoML_20190830_220017_model_6
        model_checksum -6725453809259892844
                 frame automl_training_frame_0.750
        frame_checksum -3926529998710228360
                       5-fold cross-validation on training data (Metrics computed for
           description
                       combined holdout predictions)
        model_category Regression
          scoring_time 1567173718820
           predictions ·
                   MSE 0.041306
                  RMSE 0.203240
                  nobs 3793
    custom_metric_name .
   custom_metric_value 0
                    r2 0.999429
mean_residual_deviance 0.041306
                   mae 0.103075
                 rmsle 0.009327
▶ OUTPUT - CROSS-VALIDATION METRICS SUMMARY
▶ OUTPUT - VARIABLE IMPORTANCES
▼ PREVIEW POJO
 Preview POJO
 Model ID: DeepLearning_grid_1_AutoML_20190830_220017_model_3
Algorithm: Deep Learning
  Actions:
            2 Refresh
                        Predict...
                                    ♣ Download POJO
            ▲ Download Model Deployment Package (MOJO)
                                                    ■ Export
                                                               ≡ Inspect
                                                                          Delete
            ♣ Download Gen Model
▶ MODEL PARAMETERS
▼ SCORING HISTORY - DEVIANCE
```

localhost:54321/flow/index.html#



▼ VARIABLE IMPORTANCES



▶ OUTPUT

- ▶ COLUMN_TYPES
- ▶ CROSS_VALIDATION_MODELS
- ▶ CROSS_VALIDATION_PREDICTIONS
- ▶ OUTPUT STATUS OF NEURON LAYERS (PREDICTING SILVERPRICE, REGRESSION, GAUSSIAN DISTRIBUTION, QUADRATIC LOSS, 851 WEIGHTS/BIASES, 15.9 KB, 5,006,760 TRAINING SAMPLES, MINI-BATCH SIZE 1)
- ▶ OUTPUT SCORING HISTORY
- ▼ OUTPUT TRAINING_METRICS

```
model DeepLearning_grid_1_AutoML_20190830_220017_model_3
       model_checksum -8829848686938383604
                 frame automl_training_frame_0.750
        frame_checksum -3926529998710228360
           description Metrics reported on full training frame
       model_category Regression
          scoring_time 1567175405254
          predictions ·
                  MSE 0.199678
                  RMSE 0.446854
                 nobs 3793
    custom_metric_name .
   custom_metric_value 0
                   r2 0.997241
mean_residual_deviance 0.199678
                  mae 0.245596
                 rmsle 0.027597
```

▼ OUTPUT - VALIDATION_METRICS

```
model DeepLearning_grid_1_AutoML_20190830_220017_model_3
       model checksum -8829848686938383604
                 frame frame_0.250
       frame_checksum -5155054775964776879
           description Metrics reported on full validation frame
       model_category Regression
          scoring_time 1567175405255
           predictions ·
                  MSE 0.194926
                 RMSE 0.441504
                 nobs 1226
    custom_metric_name .
   custom_metric_value 0
                   r2 0.997436
mean_residual_deviance 0.194926
                  mae 0.248568
                 rmsle 0.028002
```

▼ OUTPUT - CROSS_VALIDATION_METRICS

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CS

```
model DeepLearning_grid_1_AutoML_20190830_220017_model_3
        model_checksum -8829848686938383604
                 frame automl_training_frame_0.750
        frame_checksum -3926529998710228360
                       5-fold cross-validation on training data (Metrics computed for
           description
                       combined holdout predictions)
        model_category Regression
          scoring_time 1567175405257
           predictions ·
                   MSE 0.146170
                  RMSE 0.382322
                  nobs 3793
    custom_metric_name .
   custom_metric_value 0
                    r2 0.997980
mean_residual_deviance 0.146170
                   mae 0.216884
                 rmsle 0.020586
▶ OUTPUT - CROSS-VALIDATION METRICS SUMMARY
▶ OUTPUT - VARIABLE IMPORTANCES
▼ PREVIEW POJO
 Preview POJO
₩ Model
 Model ID: StackedEnsemble_AllModels_AutoML_20190830_220017
Algorithm: Stacked Ensemble
  Actions:
            2 Refresh
                        ₱ Predict...
                                    ♣ Download POJO
            ▲ Download Model Deployment Package (MOJO)
                                                    ■ Export
                                                               ≡ Inspect

    □ Delete

            Download Gen Model
▶ MODEL PARAMETERS
▶ OUTPUT
NAMES
▶ COLUMN_TYPES
DOMAINS
▼ OUTPUT - TRAINING_METRICS
```

localhost:54321/flow/index.html#

```
H2O- Sarit_SilverPrice
                 model StackedEnsemble_AllModels_AutoML_20190830_220017
        model_checksum 1561819341317770272
                 frame automl_training_frame_0.750
        frame_checksum -3926529998710228360
           description ·
        model_category Regression
          scoring_time 1567176357988
           predictions ·
                   MSE 0.007467
                  RMSE 0.086414
                  nobs 3793
    custom_metric_name .
   custom_metric_value 0
                    r2 0.999897
mean_residual_deviance 0.007467
                   mae 0.059831
                 rmsle 0.004973
     residual_deviance 28.323769
```

null_degrees_of_freedom 3792 residual_degrees_of_freedom 3755

null_deviance 274496.279458

AIC -7733.054335

```
▼ OUTPUT - VALIDATION_METRICS
                      model metalearner_AUTO_StackedEnsemble_AllModels_AutoML_20190830_220017
             model_checksum 7175886872074992160
                      frame
             frame_checksum 0
                description .
             model_category Regression
               scoring_time 1567176274715
                predictions ·
                        MSE 0.030395
                       RMSE 0.174343
                       nobs 1226
         custom_metric_name .
        custom_metric_value 0
                         r2 0.999600
     mean_residual_deviance 0.030395
                        mae 0.097998
                      rmsle 0.008785
          residual_deviance 37.264661
              null deviance 93202.065865
                        AIC -725.752853
    null_degrees_of_freedom 1225
residual_degrees_of_freedom 1188
```

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▼ OUTPUT - CROSS_VALIDATION_METRICS

```
model StackedEnsemble_AllModels_AutoML_20190830_220017
        model_checksum 1561819341317770272
                 frame levelone_training_StackedEnsemble_AllModels_AutoML_20190830_22001
        frame_checksum 6996118783592515700
                       5-fold cross-validation on training data (Metrics computed for
           description
                       combined holdout predictions)
        model_category Regression
         scoring_time 1567176274719
          predictions ·
                  MSE 0.033433
                  RMSE 0.182848
                  nobs 3793
   custom_metric_name •
   custom_metric_value 0
                   r2 0.999538
mean_residual_deviance 0.033433
                  mae 0.089041
                 rmsle 0.008251
     residual_deviance 126.812446
```

null_degrees_of_freedom 3792

null_deviance 274597.050664

AIC -2039.317584

residual_degrees_of_freedom 3751

▶ OUTPUT - HELP

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