## Sarit\_GoldPrice

### Assistance

Routine Description importFiles Import file(s) into H<sub>2</sub>O importSqlTable Import SQL table into H<sub>2</sub>O Get a list of frames in H<sub>2</sub>O  $\blacksquare$ getFrames X Split a frame into two or more frames splitFrame Merge two frames into one mergeFrames Get a list of models in H<sub>2</sub>O getModels Get a list of grid search results in H<sub>2</sub>O getGrids getPredictions Get a list of predictions in H2O Get a list of jobs running in H<sub>2</sub>O getJobs ♣ runAutoML Automatically train and tune many models buildModel Build a model Import a saved model importModel predict Make a prediction

## Import Files

Search: .\B.csv

Search Results: (All files added)

Selected Files: 1 file selected: Clear All

X.\B.csv

Actions: hmport

## 1 / 1 files imported.

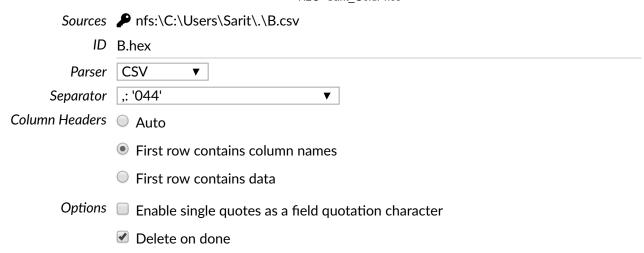
Files C:\Users\Sarit\.\B.csv

Actions Parse these files...

## Setup Parse

PARSE CONFIGURATION

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#### EDIT COLUMN NAMES AND TYPES

Search by co	lumn name
--------------	-----------

1	GoldPrice	Numeric ▼	282.7	281.1	281.4
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	bb_high_ind	Numeric ▼	0.0	0.0	0.0
8	bb_low_indi	Numeric ▼	0.0	0.0	0.0
9	26_ema	Numeric ▼	282.7	281.86923076923074	281.70064070
10	12_ema	Numeric ▼	282.7	281.8333333333333	281.66420323
11	macd	Numeric ▼	0.0	-0.03589743589736827	-0.036437476
12	CCI	Numeric ▼	2396.2335080366793	2396.2335080366793	2396.2335080
13	Index	Numeric ▼	1411.75	1413.5	1404.0
← Previous page → Next page					

Parse

### **≨** Job

Run Time 00:00:12.1

Remaining Time 00:00:00.0

Type Frame

Key Q B.hex

Description Parse

Status DONE

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Progress 100%

Done.

Actions Q View

## **⊞** B.hex

Rows	(	Columns			С	Compressed Siz	e		
5019	-	13			4	02KB			
COLUMN SUMMA	ARIES								
label	type	Missing	Zeros	+Inf	- Inf	min	max	mean	sig
GoldPrice	real	0	0	0	0	255.1000	1888.7000	948.2849	475.21
ma_20	real	Θ	19	0	0	0	1825.6200	944.9122	476.81
ma_100	real	Θ	99	0	0	0	1726.2760	931.5449	484.82
std_20	real	0	19	0	0	Θ	97.6462	17.5051	13.25
std_100	real	Θ	99	0	0	0	129.9787	35.1645	24.22
rsi	real	0	14	0	0	0	86.1075	52.1079	11.66
ob_high_indicator	int	0	4728	0	0	0	1.0	0.0580	0.23
ob_low_indicator	int	0	4802	0	Θ	0	1.0	0.0432	0.20
26_ema	real	Θ	0	0	0	259.9916	1794.1278	945.3248	474.78
12_ema	real	0	0	0	0	258.7725	1830.0379	946.9468	474.93
macd	real	0	1	Θ	0	-54.3812	69.4806	1.6220	11.89
CCI	real	0	0	Θ	0	-2216.9494	2396.2335	8.5226	1204.88
Index	real	Θ	0	0	0	676.0	3024.5000	1557.8188	559.66
4									•

# **X** Split Frame

▶ FRAME DISTRIBUTION SUMMARY

Frame:	B.hex ▼			
Splits:	Ratio	Key		
	0.90	B.hex_0.90	×	
	0.10	B.hex_0.10		
	Add a new split			

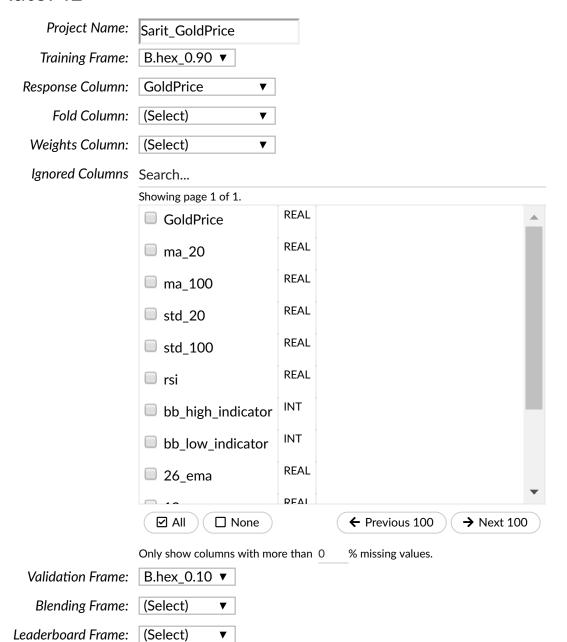
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Seed: 122989

**X** Create

### **⊞** Split Frames

### Run AutoML



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Balance classes:	
Exclude these algorithms	<b>☑</b> GLM
	✓ DRF
	□ GBM
	✓ XGBoost
	<ul><li>DeepLearning</li></ul>
	StackedEnsemble
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	
Keep cross-validation fold assignment	
Seed:	-1
Checkpoints path:	

Build Model

### **₹** Job

Run Time 01:10:31.981

Remaining Time 00:00:00.0

Type Auto Model

Key Q Sarit\_GoldPrice

Description AutoML build

Status DONE

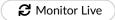
Progress 100%

Done.

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Actions Q View

## **₹** Leaderboard



### ▼ MODELS

mod	lels sorted in order of mean_residual_deviance, best first		
	model_id	mean_residual_deviance	rmse
0	GBM_2_AutoML_20190828_171259	29.27711008839914	5.41083266
1	GBM_3_AutoML_20190828_171259	30.96453249170707	5.56457837
2	GBM_4_AutoML_20190828_171259	32.08283391460495	5.66417107
3	GBM_grid_1_AutoML_20190828_171259_model_4	32.509884920788714	5.70174402
4	GBM_1_AutoML_20190828_171259	32.87705146910249	5.73385136
5	GBM_grid_1_AutoML_20190828_171259_model_7	40.42946367327252	6.35841675
6	GBM_grid_1_AutoML_20190828_171259_model_1	41.62362892355881	6.45163769
7	GBM_5_AutoML_20190828_171259	48.56642787470028	6.96896175
8	GBM_grid_1_AutoML_20190828_171259_model_5	69.10914430085916	8.31319098
9	GBM_grid_1_AutoML_20190828_171259_model_3	127.37850225032447	11.2862084
10	GBM_grid_1_AutoML_20190828_171259_model_11	134.75569768077747	11.6084321
11	GBM_grid_1_AutoML_20190828_171259_model_6	190.27353366242562	13.7939672
12	GBM_grid_1_AutoML_20190828_171259_model_2	244.24104234165702	15.6282130
13	StackedEnsemble_BestOfFamily_AutoML_20190828_171259	421.21106955251616	20.5234273
14	DeepLearning_1_AutoML_20190828_171259	990.5382609446301	31.4728178
15	DeepLearning_grid_1_AutoML_20190828_171259_model_1	4340.614985751537	65.8833437
16	DeepLearning_grid_1_AutoML_20190828_171259_model_2	47280.29448550096	217.440323
17	DeepLearning_grid_1_AutoML_20190828_171259_model_3	114608.39814785213	338.538621
18	DeepLearning_grid_1_AutoML_20190828_171259_model_4	143806.89783447186	379.218799
4			

### ▼ EVENT LOG

### Actions taken and discoveries made by AutoML

	val 🔺
0	
1	156
2	
3	
4	
5	
3	

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8/28/2019 H2O- Sarit\_GoldPrice

	timestamp	level	stage	message	name	va	1
6	17:12:59.629	Info	DataImport	training frame: Frame key: automl_training_B.hex_0.90 cols: 13 rows: 4517 chunks: 32 size: 373418 checksum: -8808964457772102338			
7	17:12:59.629	Info	DataImport	validation frame: Frame key: B.hex_0.10 cols: 13 rows: 502 chunks: 32 size: 67996 checksum: 6008306415085234431			
8	17:12:59.630	Info	DataImport	leaderboard frame: NULL			_
•	17.12.50 620	Tafa	DataTmnast	roomanaa salumni CaldDrisa		<b>&gt;</b>	

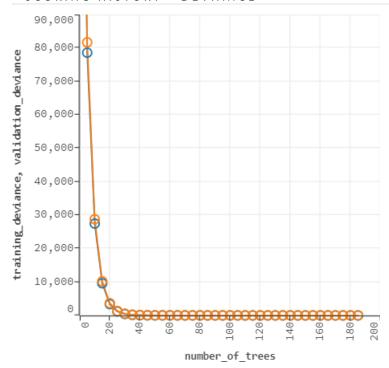
## **₩** Model

Model ID: GBM\_2\_AutoML\_20190828\_171259

Algorithm: Gradient Boosting Machine

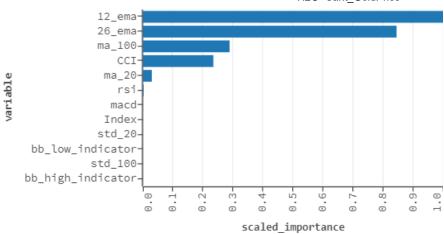
#### ▶ MODEL PARAMETERS

### ▼ SCORING HISTORY - DEVIANCE



### ▼ VARIABLE IMPORTANCES

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- ▶ OUTPUT
- ▶ COLUMN\_TYPES
- ▶ CROSS\_VALIDATION\_MODELS
- ▶ CROSS\_VALIDATION\_PREDICTIONS
- ▶ OUTPUT MODEL SUMMARY
- ▶ OUTPUT SCORING HISTORY
- ▶ OUTPUT TRAINING\_METRICS
- ▶ OUTPUT VALIDATION\_METRICS
- ▶ OUTPUT CROSS\_VALIDATION\_METRICS
- ▶ OUTPUT CROSS-VALIDATION METRICS SUMMARY

#### ▼ OUTPUT - VARIABLE IMPORTANCES

variable	relative_importance	scaled_importance	percentage
12_ema	2152687104.0	1.0	0.4166
26_ema	1816071168.0	0.8436	0.3514
ma_100	620538880.0	0.2883	0.1201
CCI	504414304.0	0.2343	0.0976
ma_20	64250708.0	0.0298	0.0124
rsi	5621866.0	0.0026	0.0011
macd	2255337.2500	0.0010	0.0004
Index	868143.5000	0.0004	0.0002
std_20	336625.0625	0.0002	0.0001
bb_low_indicator	326186.9688	0.0002	0.0001
std_100	312280.3438	0.0001	0.0001
bb_high_indicator	59260.8984	0.0	0.0

### ▼ PREVIEW POJO

Preview POJO

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CS



```
Model ID: StackedEnsemble_BestOfFamily_AutoML_20190828_171259
 Algorithm: Stacked Ensemble
  Actions:
             Refresh Predict...
                                    ▲ Download POJO
            ▲ Download Model Deployment Package (MOJO)
                                                    ■ Export
                                                                ≡ Inspect
                                                                           间 Delete
            ♣ Download Gen Model
▶ MODEL PARAMETERS
▶ OUTPUT
NAMES
▶ COLUMN_TYPES
DOMAINS
▼ OUTPUT - TRAINING_METRICS
                      model StackedEnsemble_BestOfFamily_AutoML_20190828_171259
             model_checksum 6738951580816945988
                      frame automl_training_B.hex_0.90
             frame checksum -8808964457772102338
                description ·
             model_category Regression
               scoring_time 1566987015548
                predictions ·
                        MSE 124.809338
                       RMSE 11.171810
                       nobs 4517
         custom_metric_name .
        custom_metric_value 0
                         r2 0.999445
     mean_residual_deviance 124.809338
                        mae 7.973012
                      rmsle 0.030769
          residual_deviance 563763.780511
              null_deviance 1016397626.762896
                        AIC 34629.288845
    null_degrees_of_freedom 4516
 residual_degrees_of_freedom 4514
▼ OUTPUT - VALIDATION_METRICS
```

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```
H2O- Sarit GoldPrice
                      model metalearner_AUTO_StackedEnsemble_BestOfFamily_AutoML_20190828_171
             model_checksum -7268091790205574232
                      frame ·
             frame_checksum 0
                description ·
             model_category Regression
               scoring_time 1566987014593
                predictions ·
                        MSE 131.034821
                       RMSE 11.447044
                       nobs 502
         custom_metric_name .
        custom_metric_value 0
                         r2 0.999437
     mean_residual_deviance 131.034821
                        mae 7.995821
                      rmsle 0.032116
          residual_deviance 65779.480050
              null_deviance 116823629.692439
                        AIC 3880.096761
    null_degrees_of_freedom 501
residual_degrees_of_freedom 499
▼ OUTPUT - CROSS_VALIDATION_METRICS
                      model StackedEnsemble_BestOfFamily_AutoML_20190828_171259
```

```
model_checksum 6738951580816945988
                      frame levelone_training_StackedEnsemble_BestOfFamily_AutoML_20190828_17
             frame_checksum -4588008822026419578
                            5-fold cross-validation on training data (Metrics computed for
                description
                            combined holdout predictions)
             model_category Regression
               scoring_time 1566987014700
               predictions ·
                       MSE 421.211070
                       RMSE 20.523427
                       nobs 4517
         custom_metric_name .
        custom_metric_value 0
                        r2 0.998128
    mean_residual_deviance 421.211070
                       mae 16.819937
                      rmsle 0.042451
          residual_deviance 1902610.401169
             null_deviance 1016904760.266612
                       AIC 40123.527262
   null_degrees_of_freedom 4516
residual_degrees_of_freedom 4514
```

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▶ OUTPUT - HELP

getModel "DeepLearning\_1\_AutoML\_20190828\_171259"

127.0.0.1:54329/flow/index.html#