MAADSBML AutoML Report For OTICS ADVANCED ANALYTICS

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Best Model(s) Report For admin_resamplesm_csv

MODEL DESCRIPTION

Model Trained On: 2024/07/22
Training Start Time: 1608
Training End Time: 1610
Was Data Normalized: Yes
Was Data Shuffled: Yes
Deep Analysis: No
Total Training Data Set: 1143
Training Data Percentage: 75%
Total Test Data Set: 379
Total # of Variables: 28
Adjusted for Seasonality: N
Total Algorithms Run: 1500
Removed Outliers: N
ROC AUC: 0.849
Precision: 0.787 (0.755 For Class=0)
Recall: 0.740 (0.800 For Class=0)
F1-Score: 0.763 (0.777 For Class=0)
Best Distribution FOR ACTUAL Y: F
Dependent Variable: BOOKING_STATUS_CANCELED
Independent Variables: ['no_of_adults', 'no_of_children', 'no_of_weekend_nights', 'no_of_week_nights', 'required_car_parking_space', 'lead_time', 'repeated_guest', 'no_of_previous_cancellations', 'no_of_previous_bookings_not_canceled', 'avg_price_per_room', 'no_of_special_requests', 'type_of_meal_plan_meal_plan_one', 'type_of_meal_plan_meal_plan_two', 'type_of_meal_plan_meal_plan_three', 'type_of_meal_plan_not_selected', 'room_type_reserved_room_type_one', 'room_type_reserved_room_type_two', 'room_type_reserved_room_type_three', 'room_type_reserved_room_type_four', 'room_type_reserved_room_type_five', 'room_type_reserved_room_type_six', 'room_type_reserved_room_type_seven', 'market_segment_type_aviation', 'market_segment_type_complementary', 'market_segment_type_corporate', 'market_segment_type_offline', 'market_segment_type_online']

Receiver Operating Characteristic Curve (ROC)

Using VotingClassifier MLPclassifier algorithm for allseason

IMPORTANT FILE PATHS FOR RAW AND OUTPUT DATA

NOTE: These are DOCKER CONTAINER Paths. You can view these files inside the container by using the command: **docker exec -it {container id} bash If you have re-run the container, these files will be GONE but they exist on your HOST machine. The HOST MACHINE location is based on the volumes you mapped when you ran the Docker container. The Docker RUN Volume Mappings are :: (For example here is the docker run command (use multiple -v for multiple mappings):**

DOCKER RUN COMMAND: docker run -d -p 5595:5595 -p 5495:5495 -p 10000:10000 -v {HOST MACHINE FOLDER}:{CONTAINER FOLDER}:z --env TRAININGPORT=5595 --env PREDICTIONPORT=5495 --env ABORTPORT=10000 --env COMPANYNAME=MYCOMPANY --env MAXRUNTIME=20 --env MAINHOST=127.0.0.1 maadsdocker/maads-batch-automl-otics

Docker Volume Mappings:
1. {HOST MACHINE FOLDER}/csvuploads:/maads/agentfilesdocker/dist/maadsweb/csvuploads:z
2. {HOST MACHINE FOLDER}/pdfreports:/maads/agentfilesdocker/dist/maadsweb/pdfreports:z
3. {HOST MACHINE FOLDER}/autofeatures:/maads/agentfilesdocker/dist/maadsweb/autofeatures:z
4. {HOST MACHINE FOLDER}/outliers:/maads/agentfilesdocker/dist/maadsweb/outliers:z
5. {HOST MACHINE FOLDER}/sqlloads:/maads/agentfilesdocker/dist/maadsweb/sqlloads:z
6. {HOST MACHINE FOLDER}/networktemp:/maads/agentfilesdocker/dist/maadsweb/networktemp:z
7. {HOST MACHINE FOLDER}/networks:/maads/agentfilesdocker/networks:z
8. {HOST MACHINE FOLDER}/exception:/maads/agentfilesdocker/dist/maadsweb/exception:z
9. {HOST MACHINE FOLDER}/staging:/maads/agentfilesdocker/dist/staging:z

Path for Training Dataset File: /maads/agentfilesdocker/dist/maadsweb/csvuploads/resamplesm.csv
Path for PDF Report (i.e. this file): /maads/agentfilesdocker/dist/maadsweb/pdfreports/admin_resamplesm_csv_no_seasons.pdf
Path for AutoFeature File: /maads/agentfilesdocker/dist/maadsweb/autofeatures/admin_resamplesm_csv_.csv
Path for Outliers File: /maads/agentfilesdocker/dist/maadsweb/outliers/admin_resamplesm_csv.csv
Path for Algo JSON File: /maads/agentfilesdocker/dist/maadsweb/exception/admin_resamplesm_csv_trained_algo_no_seasons.json
Folder Path for MySQL Scripts: /maads/agentfilesdocker/dist/maadsweb/sqlloads/
Path for Detailed Prediction File: /maads/agentfilesdocker/dist/maadsweb/csvuploads/admin_resamplesm_csv_prediction_details.csv
Path for Algorithm Zip File (i.e pickle files): /maads/agentfilesdocker/dist/maadsweb/networktemp/admin_resamplesm_csv.zip
Path for Algorithm Pickle Files:
1. /maads/agentfilesdocker/networks/Otics Advanced Analytics_ADMIN_RESAMPLESM_CSVALLSEASON_AG1_4_VotingClassifier_MLPclassifier_normal_1143_ensemble_.pkl
2. /maads/agentfilesdocker/networks/Otics Advanced Analytics_ADMIN_RESAMPLESM_CSVALLSEASON_AG1_4_VotingClassifier_MLPclassifier_normal_1143_ensemble_scalerx_.pkl

DESCRIPTIVE STATISTICS

Variables	T-Statistic	Coefficients (alpha,beta)	Count	Mean	STD	MIN	25%	50%	75%	MAX
no_of_adults	3.9	0.483, 0.053	1143.0	0.044	-3.557	0.96	0.299	0.299	0.299	2.227
no_of_children	1.091	0.485, 0.013	1143.0	0.019	-0.261	1.03	-0.261	-0.261	-0.261	7.189
no_of_weekend_nights	3.734	0.484, 0.046	1143.0	0.0	-0.931	1.029	-0.931	0.217	1.366	5.96
no_of_week_nights	2.925	0.484, 0.034	1143.0	0.025	-1.562	1.096	-0.854	-0.145	0.564	10.487
required_car_parking_space	-3.779	0.484, -0.054	1143.0	-0.037	-0.179	0.893	-0.179	-0.179	-0.179	5.592
lead_time	18.622	0.456, 0.205	1143.0	0.145	-0.992	1.042	-0.713	-0.154	0.765	4.163
repeated_guest	-5.423	0.483, -0.078	1143.0	-0.04	-0.162	0.87	-0.162	-0.162	-0.162	6.165
no_of_previous_cancellations	-3.134	0.479, -0.154	1143.0	-0.044	-0.063	0.253	-0.063	-0.063	-0.063	5.367
no_of_previous_bookings_not_canceled	-3.519	0.475, -0.171	1143.0	-0.06	-0.087	0.295	-0.087	-0.087	-0.087	5.613
avg_price_per_room	6.495	0.482, 0.082	1143.0	0.041	-2.947	0.965	-0.614	-0.098	0.525	4.947
no_of_special_requests	-10.313	0.474, -0.136	1143.0	-0.078	-0.788	0.945	-0.788	-0.788	0.484	4.299
type_of_meal_plan_meal_plan_one	-3.571	0.565, -0.106	1143.0	0.757	0.0	0.429	1.0	1.0	1.0	1.0
type_of_meal_plan_meal_plan_two	4.033	0.468, 0.165	1143.0	0.103	0.0	0.304	0.0	0.0	0.0	1.0
type_of_meal_plan_meal_plan_three	nan	0.486, 0.0	1143.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
type_of_meal_plan_not_selected	0.823	0.481, 0.031	1143.0	0.14	0.0	0.347	0.0	0.0	0.0	1.0
room_type_reserved_room_type_one	-0.257	0.492, -0.008	1143.0	0.77	0.0	0.421	1.0	1.0	1.0	1.0
room_type_reserved_room_type_two	0.149	0.485, 0.015	1143.0	0.016	0.0	0.125	0.0	0.0	0.0	1.0
room_type_reserved_room_type_three	nan	0.486, 0.0	1143.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
room_type_reserved_room_type_four	0.243	0.484, 0.008	1143.0	0.175	0.0	0.38	0.0	0.0	0.0	1.0
room_type_reserved_room_type_five	-1.178	0.487, -0.187	1143.0	0.006	0.0	0.078	0.0	0.0	0.0	1.0
room_type_reserved_room_type_six	0.494	0.484, 0.035	1143.0	0.031	0.0	0.172	0.0	0.0	0.0	1.0
room_type_reserved_room_type_seven	0.058	0.486, 0.014	1143.0	0.003	0.0	0.051	0.0	0.0	0.0	1.0
market_segment_type_aviation	-0.627	0.486, -0.111	1143.0	0.005	0.0	0.072	0.0	0.0	0.0	1.0
market_segment_type_complementary	-2.929	0.488, -0.488	1143.0	0.006	0.0	0.078	0.0	0.0	0.0	1.0
market_segment_type_corporate	-3.606	0.495, -0.245	1143.0	0.038	0.0	0.19	0.0	0.0	0.0	1.0
market_segment_type_offline	-2.671	0.508, -0.074	1143.0	0.302	0.0	0.459	0.0	0.0	1.0	1.0
market_segment_type_online	4.579	0.406, 0.122	1143.0	0.649	0.0	0.477	0.0	1.0	1.0	1.0
BOOKING_STATUS_CANCELED	NA	NA	1143.0	0.493	0.0	0.5	0.0	0.0	1.0	1.0

BEST ALGORITHM FOUND FOR THIS DATASET

(Note: This trained model will be used to predict BOOKING_STATUS_CANCELED)

Algorithm	Description	Model Results	ROC/AUC	Precision	Recall	F1-Score	Forecast Months	Season
VotingClassifier_MLPclassifier	Multiple Layer Perceptron classifier: MLP Classifier	MLPClassifier(hidden_layer_sizes=68, learning_rate_init=0.15653295398676115, max_iter=584, random_state=106)	0.849	0.787: Class=1 (0.755: Class=0)	0.740: Class=1 (0.800: Class=0)	0.763: Class=1 (0.777: Class=0)	1 - 12	allseason

TOP 5 ALGORITHMS FOR ALLSEASON

Num	Algorithm	Model ROC/AUC	Details	Season	Description
1	VotingClassifier_MLPclassifier	0.8490	**Recall:** 0.74 (class 1) **Precision:** 0.787 (class 1) **F1 Score:** 0.763 (class 1) **Recall:** 0.8 (class 0) **Precision:** 0.755 (class 0) **F1 Score:** 0.777 (class 0) **False Positive Rate:** 10.0% **True Negaive Rate:** 10.0% **False Negative Rate:** 13.0% **True Positive Rate:** 37.0%	allseason	MULTIPLE LAYER PERCEPTRON CLASSIFIER: MLP Classifier
2	LogisticRegression	0.8490	**Recall:** 0.64 (class 1) **Precision:** 0.762 (class 1) **F1 Score:** 0.696 (class 1) **Recall:** 0.8 (class 0) **Precision:** 0.69 (class 0) **F1 Score:** 0.741 (class 0) **False Positive Rate:** 10.0% **True Negaive Rate:** 10.0% **False Negative Rate:** 18.0% **True Positive Rate:** 32.0%	allseason	LOGISTIC REGRESSION:
3	VotingClassifier_Adaboost	0.8450	**Recall:** 0.6 (class 1) **Precision:** 0.75 (class 1) **F1 Score:** 0.667 (class 1) **Recall:** 0.8 (class 0) **Precision:** 0.667 (class 0) **F1 Score:** 0.727 (class 0) **False Positive Rate:** 10.0% **True Negaive Rate:** 10.0% **False Negative Rate:** 20.0% **True Positive Rate:** 30.0%	allseason	ADA BOOST: ADA boost classifier
4	VotingClassifier_GradientBoosting	0.8410	**Recall:** 0.88 (class 1) **Precision:** 0.846 (class 1) **F1 Score:** 0.863 (class 1) **Recall:** 0.84 (class 0) **Precision:** 0.875 (class 0) **F1 Score:** 0.857 (class 0) **False Negative Rate:** 6.0% **False Positive Rate:** 8.0% **True Negaive Rate:** 8.0% **True Positive Rate:** 44.0%	allseason	GRADIENT BOOSTING CLASSIFIER: Gradient Boosting Classifier
5	VotingClassifier_knclassifier	0.8300	**Recall:** 0.78 (class 1) **Precision:** 0.83 (class 1) **F1 Score:** 0.804 (class 1) **Recall:** 0.84 (class 0) **Precision:** 0.792 (class 0) **F1 Score:** 0.816 (class 0)	allseason	K-NEAREST NEIGHBOUR: k-nearest neighbour

			False Positive Rate: 8.0% **True Negaive Rate:** 8.0% **False Negative Rate:** 11.0% **True Positive Rate:** 39.0%		

Detailed Histograms of Training and Test Data Sets

TRAINING VARIABLES

Bins	[-2.95e+00, -2.16e+00]	[-2.16e+00, -1.37e+00]	[-1.37e+00, -5.79e-01]	[-5.79e-01, 2.10e-01]	[2.10e-01, 1.00e+00]	[1.00e+00, 1.79e+00]
Count	21	17	370	554	338	143
Share	**1.0%**	**1.0%**	**24.0%**	**36.0%**	**22.0%**	**9.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	-2.00e+00	-2.00e+00	-2.00e+00	-2.00e+00	-2.00e+00	-2.00e+00
Max	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	783	0	0	0	0	0
Share	**51.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

TEST VARIABLES

Bins	[-2.95e+00, -2.22e+00]	[-2.22e+00, -1.50e+00]	[-1.50e+00, -7.79e-01]	[-7.79e-01, -5.57e-02]	[-5.57e-02, 6.67e-01]	[6.67e-01, 1.39e+00]
Count	6	0	75	116	83	63
Share	**2.0%**	**0.0%**	**20.0%**	**31.0%**	**22.0%**	**17.0%**
Total Rows	379	379	379	379	379	379
Min	-2.00e+00	-2.00e+00	-2.00e+00	-2.00e+00	-2.00e+00	-2.00e+00
Max	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	203	0	0	0	0	0
Share	**54.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-9.92e-01, -4.76e-01]	[-4.76e-01, 3.92e-02]	[3.92e-02, 5.55e-01]	[5.55e-01, 1.07e+00]	[1.07e+00, 1.59e+00]	[1.59e+00, 2.10e+00]
Count	579	296	193	145	142	68
Share	38.0%	19.0%	13.0%	10.0%	9.0%	4.0%
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1514	0	0	0	0	0
Share	99.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1513	0	0	0	0	0
Share	99.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-9.92e-01, -5.43e-01]	[-5.43e-01, -9.35e-02]	[-9.35e-02, 3.56e-01]	[3.56e-01, 8.05e-01]	[8.05e-01, 1.25e+00]	[1.25e+00, 1.70e+00]
Count	134	77	41	32	32	22
Share	35.0%	20.0%	11.0%	8.0%	8.0%	6.0%
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	3.00e+00	3.00e+00	3.00e+00	3.00e+00	3.00e+00	3.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	377	0	0	0	0	0
Share	99.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	377	0	0	0	0	0
Share	99.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1466	0	0	0	0	0
Share	**96.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	366	0	0	0	0	0
Share	**97.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1063	0	0	0	0	0
Share	**70.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	265	0	0	0	0	0
Share	**70.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	532	0	0	0	0	0
Share	**35.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	131	0	0	0	0	0
Share	**35.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-3.56e+00, -2.98e+00]	[-2.98e+00, -2.40e+00]	[-2.40e+00, -1.82e+00]	[-1.82e+00, -1.24e+00]	[-1.24e+00, -6.65e-01]	[-6.65e-01, -8.67e-02]
Count	3	0	0	284	0	0
Share	**0.0%**	**0.0%**	**0.0%**	**19.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	-3.00e+00	-3.00e+00	-3.00e+00	-3.00e+00	-3.00e+00	-3.00e+00
Max	2.00e+00	2.00e+00	2.00e+00	2.00e+00	2.00e+00	2.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-1.63e+00, -1.24e+00]	[-1.24e+00, -8.58e-01]	[-8.58e-01, -4.72e-01]	[-4.72e-01, -8.67e-02]	[-8.67e-02, 2.99e-01]	[2.99e-01, 6.84e-01]
Count	66	0	0	0	0	290
Share	**17.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**77.0%**
Total Rows	379	379	379	379	379	379
Min	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00
Max	2.00e+00	2.00e+00	2.00e+00	2.00e+00	2.00e+00	2.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-2.61e-01, 4.84e-01]	[4.84e-01, 1.23e+00]	[1.23e+00, 1.97e+00]	[1.97e+00, 2.72e+00]	[2.72e+00, 3.46e+00]	[3.46e+00, 4.21e+00]
Count	1397	0	0	69	0	0
Share	**92.0%**	**0.0%**	**0.0%**	**5.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	7.00e+00	7.00e+00	7.00e+00	7.00e+00	7.00e+00	7.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-2.61e-01, 4.84e-01]	[4.84e-01, 1.23e+00]	[1.23e+00, 1.97e+00]	[1.97e+00, 2.72e+00]	[2.72e+00, 3.46e+00]	[3.46e+00, 4.21e+00]
Count	343	0	0	19	0	0
Share	**91.0%**	**0.0%**	**0.0%**	**5.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	7.00e+00	7.00e+00	7.00e+00	7.00e+00	7.00e+00	7.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-8.75e-02, 4.83e-01]	[4.83e-01, 1.05e+00]	[1.05e+00, 1.62e+00]	[1.62e+00, 2.19e+00]	[2.19e+00, 2.76e+00]	[2.76e+00, 3.33e+00]
Count	1508	0	6	3	1	0
Share	99.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-8.75e-02, 8.36e-02]	[8.36e-02, 2.55e-01]	[2.55e-01, 4.26e-01]	[4.26e-01, 5.97e-01]	[5.97e-01, 7.68e-01]	[7.68e-01, 9.39e-01]
Count	374	0	0	2	0	0
Share	99.0%	0.0%	0.0%	1.0%	0.0%	0.0%
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-6.34e-02, 4.80e-01]	[4.80e-01, 1.02e+00]	[1.02e+00, 1.57e+00]	[1.57e+00, 2.11e+00]	[2.11e+00, 2.65e+00]	[2.65e+00, 3.19e+00]
Count	1511	0	0	0	0	10
Share	99.0%	0.0%	0.0%	0.0%	0.0%	1.0%
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-6.34e-02, 2.08e-01]	[2.08e-01, 4.80e-01]	[4.80e-01, 7.51e-01]	[7.51e-01, 1.02e+00]	[1.02e+00, 1.29e+00]	[1.29e+00, 1.57e+00]
Count	375	0	0	0	0	0
Share	99.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	2.00e+00	2.00e+00	2.00e+00	2.00e+00	2.00e+00	2.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-7.88e-01, -2.79e-01]	[-2.79e-01, 2.29e-01]	[2.29e-01, 7.38e-01]	[7.38e-01, 1.25e+00]	[1.25e+00, 1.76e+00]	[1.76e+00, 2.26e+00]
Count	885	0	458	0	156	0
Share	58.0%	0.0%	30.0%	0.0%	10.0%	0.0%
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-7.88e-01, -4.07e-01]	[-4.07e-01, -2.50e-02]	[-2.50e-02, 3.57e-01]	[3.57e-01, 7.38e-01]	[7.38e-01, 1.12e+00]	[1.12e+00, 1.50e+00]
Count	226	0	0	109	0	0
Share	60.0%	0.0%	0.0%	29.0%	0.0%	0.0%
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	3.00e+00	3.00e+00	3.00e+00	3.00e+00	3.00e+00	3.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-9.31e-01, -2.42e-01]	[-2.42e-01, 4.47e-01]	[4.47e-01, 1.14e+00]	[1.14e+00, 1.83e+00]	[1.83e+00, 2.51e+00]	[2.51e+00, 3.20e+00]
Count	693	426	0	384	6	0
Share	**46.0%**	**28.0%**	**0.0%**	**25.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-9.31e-01, -3.57e-01]	[-3.57e-01, 2.17e-01]	[2.17e-01, 7.92e-01]	[7.92e-01, 1.37e+00]	[1.37e+00, 1.94e+00]	[1.94e+00, 2.51e+00]
Count	158	108	0	108	0	1
Share	**42.0%**	**28.0%**	**0.0%**	**28.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00	4.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-1.56e+00, -3.57e-01]	[-3.57e-01, 8.47e-01]	[8.47e-01, 2.05e+00]	[2.05e+00, 3.26e+00]	[3.26e+00, 4.46e+00]	[4.46e+00, 5.67e+00]
Count	473	813	212	6	5	8
Share	**31.0%**	**53.0%**	**14.0%**	**0.0%**	**0.0%**	**1.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00
Max	1.00e+01	1.00e+01	1.00e+01	1.00e+01	1.00e+01	1.00e+01
Number of Bins	6	6	6	6	6	6

Bins	[-1.56e+00, -4.99e-01]	[-4.99e-01, 5.64e-01]	[5.64e-01, 1.63e+00]	[1.63e+00, 2.69e+00]	[2.69e+00, 3.75e+00]	[3.75e+00, 4.82e+00]
Count	103	209	33	27	3	2
Share	**27.0%**	**55.0%**	**9.0%**	**7.0%**	**1.0%**	**1.0%**
Total Rows	379	379	379	379	379	379
Min	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00	-1.00e+00
Max	9.00e+00	9.00e+00	9.00e+00	9.00e+00	9.00e+00	9.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-1.62e-01, 4.70e-01]	[4.70e-01, 1.10e+00]	[1.10e+00, 1.74e+00]	[1.74e+00, 2.37e+00]	[2.37e+00, 3.00e+00]	[3.00e+00, 3.63e+00]
Count	1492	0	0	0	0	0
Share	**98.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	6.00e+00	6.00e+00	6.00e+00	6.00e+00	6.00e+00	6.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-1.62e-01, 4.70e-01]	[4.70e-01, 1.10e+00]	[1.10e+00, 1.74e+00]	[1.74e+00, 2.37e+00]	[2.37e+00, 3.00e+00]	[3.00e+00, 3.63e+00]
Count	371	0	0	0	0	0
Share	**98.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	6.00e+00	6.00e+00	6.00e+00	6.00e+00	6.00e+00	6.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-1.79e-01, 3.98e-01]	[3.98e-01, 9.75e-01]	[9.75e-01, 1.55e+00]	[1.55e+00, 2.13e+00]	[2.13e+00, 2.71e+00]	[2.71e+00, 3.28e+00]
Count	1484	0	0	0	0	0
Share	**98.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-1.79e-01, 3.98e-01]	[3.98e-01, 9.75e-01]	[9.75e-01, 1.55e+00]	[1.55e+00, 2.13e+00]	[2.13e+00, 2.71e+00]	[2.71e+00, 3.28e+00]
Count	369	0	0	0	0	0
Share	**97.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00	5.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1512	0	0	0	0	0
Share	**99.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	376	0	0	0	0	0
Share	**99.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1260	0	0	0	0	0
Share	**83.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	317	0	0	0	0	0
Share	**84.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	354	0	0	0	0	0
Share	**23.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	91	0	0	0	0	0
Share	**24.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1518	0	0	0	0	0
Share	**100.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	378	0	0	0	0	0
Share	**100.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1470	0	0	0	0	0
Share	**97.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	362	0	0	0	0	0
Share	**96.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-5.00e-01, -4.00e-01]	[-4.00e-01, -3.00e-01]	[-3.00e-01, -2.00e-01]	[-2.00e-01, -1.00e-01]	[-1.00e-01, 0.00e+00]	[0.00e+00, 1.00e-01]
Count	0	0	0	0	0	1522
Share	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**100.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-5.00e-01, -4.00e-01]	[-4.00e-01, -3.00e-01]	[-3.00e-01, -2.00e-01]	[-2.00e-01, -1.00e-01]	[-1.00e-01, 0.00e+00]	[0.00e+00, 1.00e-01]
Count	0	0	0	0	0	379
Share	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**100.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1496	0	0	0	0	0
Share	**98.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	371	0	0	0	0	0
Share	**98.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	377	0	0	0	0	0
Share	**25.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	99	0	0	0	0	0
Share	**26.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-5.00e-01, -4.00e-01]	[-4.00e-01, -3.00e-01]	[-3.00e-01, -2.00e-01]	[-2.00e-01, -1.00e-01]	[-1.00e-01, 0.00e+00]	[0.00e+00, 1.00e-01]
Count	0	0	0	0	0	1522
Share	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**100.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[-5.00e-01, -4.00e-01]	[-4.00e-01, -3.00e-01]	[-3.00e-01, -2.00e-01]	[-2.00e-01, -1.00e-01]	[-1.00e-01, 0.00e+00]	[0.00e+00, 1.00e-01]
Count	0	0	0	0	0	379
Share	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**100.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1356	0	0	0	0	0
Share	**89.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	331	0	0	0	0	0
Share	**87.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	1311	0	0	0	0	0
Share	**86.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	1522	1522	1522	1522	1522	1522
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Bins	[0.00e+00, 1.00e-01]	[1.00e-01, 2.00e-01]	[2.00e-01, 3.00e-01]	[3.00e-01, 4.00e-01]	[4.00e-01, 5.00e-01]	[5.00e-01, 6.00e-01]
Count	328	0	0	0	0	0
Share	**87.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Rows	379	379	379	379	379	379
Min	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
Max	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00	1.00e+00
Number of Bins	6	6	6	6	6	6

Detailed Graphs of Variables Against Time

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.493
STD	0.5
Kurtosis	-1.999
Skewness	0.03
Coeff. Variation	1.015
Shapiro Normality	0.637

	Stats
Min	-3.557
Max	2.227
Median	0.299
Mean	0.044
STD	0.959
Kurtosis	1.0
Skewness	-0.385
Coeff. Variation	21.703
Shapiro Normality	0.671

	Stats
Min	-0.261
Max	7.189
Median	-0.261
Mean	0.019
STD	1.03
Kurtosis	14.256
Skewness	3.842
Coeff. Variation	54.679
Shapiro Normality	0.293

	Stats
Min	-0.931
Max	5.96
Median	0.217
Mean	0.0
STD	1.029
Kurtosis	1.73
Skewness	1.0
Coeff. Variation	2991.147
Shapiro Normality	0.773

	Stats
Min	-1.562
Max	10.487
Median	-0.145
Mean	0.025
STD	1.096
Kurtosis	16.005
Skewness	2.503
Coeff. Variation	43.651
Shapiro Normality	0.813

	Stats
Min	-0.179
Max	5.592
Median	-0.179
Mean	-0.037
STD	0.892
Kurtosis	35.847
Skewness	6.152
Coeff. Variation	-23.824
Shapiro Normality	0.138

	Stats
Min	-0.992
Max	4.163
Median	-0.154
Mean	0.145
STD	1.042
Kurtosis	0.529
Skewness	1.053
Coeff. Variation	7.187
Shapiro Normality	0.891

	Stats
Min	-0.162
Max	6.165
Median	-0.162
Mean	-0.04
STD	0.869
Kurtosis	46.974
Skewness	6.998
Coeff. Variation	-21.502
Shapiro Normality	0.116

	Stats
Min	-0.063
Max	5.367
Median	-0.063
Mean	-0.044
STD	0.253
Kurtosis	246.803
Skewness	14.869
Coeff. Variation	-5.705
Shapiro Normality	0.048

	Stats
Min	-0.087
Max	5.613
Median	-0.087
Mean	-0.06
STD	0.295
Kurtosis	209.131
Skewness	13.648
Coeff. Variation	-4.949
Shapiro Normality	0.07

	Stats
Min	-2.947
Max	4.947
Median	-0.098
Mean	0.041
STD	0.965
Kurtosis	2.422
Skewness	0.658
Coeff. Variation	23.441
Shapiro Normality	0.954

	Stats
Min	-0.788
Max	4.299
Median	-0.788
Mean	-0.078
STD	0.944
Kurtosis	0.825
Skewness	1.186
Coeff. Variation	-12.075
Shapiro Normality	0.725

	Stats
Min	0.0
Max	1.0
Median	1.0
Mean	0.757
STD	0.429
Kurtosis	-0.567
Skewness	-1.197
Coeff. Variation	0.567
Shapiro Normality	0.533

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.103
STD	0.304
Kurtosis	4.802
Skewness	2.608
Coeff. Variation	2.947
Shapiro Normality	0.348

	Stats
Min	0.0
Max	0.0
Median	0.0
Mean	0.0
STD	0.0
Kurtosis	nan
Skewness	nan
Coeff. Variation	nan
Shapiro Normality	1.0

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.14
STD	0.347
Kurtosis	2.307
Skewness	2.075
Coeff. Variation	2.479
Shapiro Normality	0.411

	Stats
Min	0.0
Max	1.0
Median	1.0
Mean	0.77
STD	0.421
Kurtosis	-0.355
Skewness	-1.283
Coeff. Variation	0.547
Shapiro Normality	0.521

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.016
STD	0.124
Kurtosis	58.516
Skewness	7.779
Coeff. Variation	7.906
Shapiro Normality	0.101

	Stats
Min	0.0
Max	0.0
Median	0.0
Mean	0.0
STD	0.0
Kurtosis	nan
Skewness	nan
Coeff. Variation	nan
Shapiro Normality	1.0

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.175
STD	0.38
Kurtosis	0.927
Skewness	1.711
Coeff. Variation	2.171
Shapiro Normality	0.46

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.006
STD	0.078
Kurtosis	158.292
Skewness	12.661
Coeff. Variation	12.739
Shapiro Normality	0.049

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.031
STD	0.172
Kurtosis	27.689
Skewness	5.449
Coeff. Variation	5.626
Shapiro Normality	0.161

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.003
STD	0.051
Kurtosis	376.003
Skewness	19.442
Coeff. Variation	19.494
Shapiro Normality	0.026

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.005
STD	0.072
Kurtosis	185.505
Skewness	13.693
Coeff. Variation	13.766
Shapiro Normality	0.044

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.006
STD	0.078
Kurtosis	158.292
Skewness	12.661
Coeff. Variation	12.739
Shapiro Normality	0.049

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.038
STD	0.19
Kurtosis	21.62
Skewness	4.86
Coeff. Variation	5.058
Shapiro Normality	0.186

	Stats
Min	0.0
Max	1.0
Median	0.0
Mean	0.302
STD	0.459
Kurtosis	-1.255
Skewness	0.863
Coeff. Variation	1.521
Shapiro Normality	0.577

	Stats
Min	0.0
Max	1.0
Median	1.0
Mean	0.649
STD	0.477
Kurtosis	-1.609
Skewness	-0.625
Coeff. Variation	0.735
Shapiro Normality	0.603

Confusion Matrix

The confusion matrix shows the True Negatives (top left)/True Positives (bottom right) on the diagonals, and False Negatives (top right) and False Positives (bottom left).
True Positives: 10
False Positives: 40
True Negatives: 13
False Negatives: 13
Total Population: 100
The False Positve Rate(FPR) is: 10.0%
The False Negative Rate is: 13.0%
The True Positive Rate is: 37.0%
The True Negative Rate is: 40.0%
The Positive Likelihood Ratio (True Positive Rate/False Positive Rate)is: 3.7
The Negative Likelihood Ratio (False Negative Rate/True Negative Rate) is: 0.32
Accuracy: 0.849
Precision: 0.787
Recall: 0.74
F1 Score: 0.763

Precision Curve: [0.500, 0.521, 0.526, 0.538, 0.543, 0.549, 0.562, 0.568, 0.581, 0.588, 0.595, 0.602, 0.610, 0.625, 0.633, 0.641, 0.649, 0.667, 0.676, 0.685, 0.694, 0.704, 0.700, 0.710, 0.721, 0.716, 0.727, 0.726, 0.733, 0.746, 0.737, 0.732, 0.745, 0.774, 0.769, 0.784, 0.776, 0.792, 0.787, 0.783, 0.800, 0.795, 0.791, 0.810, 0.805, 0.800, 0.795, 0.811, 0.833, 0.829, 0.824, 0.818, 0.844, 0.839, 0.833, 0.862, 0.893, 0.926, 0.923, 0.960, 0.958, 0.957, 0.955, 0.952, 0.950, 0.947, 0.944, 0.941, 0.938, 0.933, 0.929, 0.923, 0.917, 0.909, 0.889, 0.875, 1.000, 1.000, 1.000, 1.000, 1.000, 1.000]

Recall Curve: [1.000, 0.980, 0.980, 0.980, 0.960, 0.960, 0.900, 0.880, 0.880, 0.840, 0.820, 0.820, 0.820, 0.800, 0.800, 0.760, 0.760, 0.740, 0.720, 0.720, 0.700, 0.680, 0.680, 0.660, 0.640, 0.620, 0.600, 0.600, 0.580, 0.560, 0.540, 0.540, 0.520, 0.500, 0.500, 0.500, 0.500, 0.480, 0.480, 0.460, 0.440, 0.420, 0.400, 0.380, 0.360, 0.340, 0.320, 0.300, 0.280, 0.260, 0.240, 0.220, 0.200, 0.160, 0.140, 0.140, 0.120, 0.100, 0.080, 0.040, 0.000]

Thresholds: [0.000, 0.001, 0.002, 0.004, 0.005, 0.006, 0.008, 0.010, 0.012, 0.016, 0.017, 0.018, 0.021, 0.028, 0.033, 0.036, 0.050, 0.062, 0.093, 0.117, 0.134, 0.140, 0.162, 0.164, 0.170, 0.210, 0.233, 0.246, 0.351, 0.365, 0.377, 0.400, 0.401, 0.412, 0.432, 0.437, 0.491, 0.500, 0.512, 0.545, 0.558, 0.563, 0.572, 0.580, 0.588, 0.591, 0.597, 0.605, 0.628, 0.647, 0.659, 0.663, 0.666, 0.695, 0.702, 0.719, 0.800, 0.804, 0.813, 0.823, 0.831, 0.832, 0.835, 0.838, 0.846, 0.851, 0.873, 0.895, 0.899, 0.904, 0.922, 0.931, 0.938, 0.955, 0.957, 0.958, 0.970, 0.973, 0.981, 0.988, 0.995]

MODEL EXPLANATION

- The x-axis represents the model's output values of **BOOKING_STATUS_CANCELED**
- The plot is centered on the x-axis at explainer.expected_value.
- All values are relative to the model's expected value like a linear model's effects are relative to the intercept.
- The y-axis lists the model's features. By default, the features are ordered by descending importance.
- The importance is calculated over the observations plotted. _This is usually different than the importance ordering for the entire dataset.
- In addition to feature importance ordering, the decision plot also supports hierarchical cluster feature ordering and user-defined feature ordering.
- Each observation's prediction is represented by a colored line.
- At the top of the plot, each line strikes the x-axis at its corresponding observation's predicted value. This value determines the color of the line on a spectrum.
- Moving from the bottom of the plot to the top, SHAP values for each feature are added to the model's base value.
- This shows how each feature contributes to the overall prediction.
- At the bottom of the plot, the observations converge at explainer.expected_value.
- The points in the graph are the values of the feature in the training dataset.

FEATURE SELECTION

RFE Variable (Most important to Least Important)	Value
lead_time	0.055
no_of_special_requests	0.028
avg_price_per_room	0.012
market_segment_type_online	0.008
no_of_week_nights	0.006
no_of_weekend_nights	0.006
repeated_guest	0.005
no_of_adults	0.005
market_segment_type_offline	0.004
type_of_meal_plan_meal_plan_two	0.004
required_car_parking_space	0.003
type_of_meal_plan_meal_plan_one	0.002
room_type_reserved_room_type_one	0.002
no_of_children	0.002
room_type_reserved_room_type_four	0.001
market_segment_type_corporate	0.001
type_of_meal_plan_not_selected	0.001
room_type_reserved_room_type_two	0.001
room_type_reserved_room_type_six	0.001
market_segment_type_complementary	0.001
no_of_previous_bookings_not_canceled	0.001
room_type_reserved_room_type_seven	0.000
no_of_previous_cancellations	0.000
room_type_reserved_room_type_five	0.000
market_segment_type_aviation	0.000
type_of_meal_plan_meal_plan_three	0.000
room_type_reserved_room_type_three	0.000
Best Variable(s) From Genetic Algorithm	
lead_time	
room_type_reserved_room_type_three	
Excluded Variable(s)	
no_of_special_requests	
required_car_parking_space	
type_of_meal_plan_meal_plan_one	
room_type_reserved_room_type_one	
no_of_children	
room_type_reserved_room_type_four	
market_segment_type_corporate	
type_of_meal_plan_not_selected	
room_type_reserved_room_type_two	
room_type_reserved_room_type_six	
market_segment_type_complementary	
avg_price_per_room	
no_of_previous_bookings_not_canceled	
room_type_reserved_room_type_seven	
no_of_previous_cancellations	
room_type_reserved_room_type_five	
market_segment_type_aviation	
type_of_meal_plan_meal_plan_three	
market_segment_type_online	
no_of_week_nights	
no_of_weekend_nights	
repeated_guest	
no_of_adults	
market_segment_type_offline	
type_of_meal_plan_meal_plan_two	
PCA for Best Variable(s)	Value
lead_time_pca_1	0.707
lead_time_pca_2	0.707
lead_time_pca_3	0.000
room_type_reserved_room_type_three_pca_1	0.000
room_type_reserved_room_type_three_pca_2	-0.000
room_type_reserved_room_type_three_pca_3	1.000
PCA Explained Variance	Value
PCA1	0.716
PCA2	0.284
PCA3	0.000

- Feature selection shows which variables were more influential than other variables
- It uses two core algorithms: Recursive Feature Elimination (RFE) and Genetic Algorithm to determine influence
- It also performs PCA (principal component analysis) analysis to determine the influence of the best variables in the model
- These results should be used in conjunction with other information as well as theory to establish relevance and confidence in the chosen model formulation

CLUSTER ANALYSIS: PCA and KMeans

Over 80% of the variance in your data is explaned by 14 principal components.

Optimal clusters are **12** with a silhouette score of **0.274** using euclidean distance.
NOTE: Only two principal components are shown in the 2D graph because your variables have been reduced by dimensionality reduction using PCA.
However, the entire data set can be found here:
/maads/agentfilesdocker/dist/maadsweb/csvuploads/admin_resamplesm_csv_clusters_pcakmeans.csv for further analysis.

CORRELATION MATRIX

CORRELATED FEATURES

	Feature(s)	Feature(s)	Correlation >= 0.100
0	market_segment_type_complementary	room_type_reserved_room_type_five	0.100
1	type_of_meal_plan_meal_plan_one	no_of_week_nights	0.101
2	market_segment_type_corporate	required_car_parking_space	0.103
3	market_segment_type_online	no_of_week_nights	0.109
4	market_segment_type_corporate	type_of_meal_plan_meal_plan_one	0.112
5	no_of_adults	lead_time	0.117
6	room_type_reserved_room_type_four	no_of_special_requests	0.121
7	no_of_children	room_type_reserved_room_type_two	0.128
8	no_of_children	no_of_special_requests	0.130
9	no_of_special_requests	avg_price_per_room	0.136
10	market_segment_type_online	room_type_reserved_room_type_six	0.138
11	type_of_meal_plan_meal_plan_two	avg_price_per_room	0.140
12	no_of_weekend_nights	market_segment_type_online	0.142
13	room_type_reserved_room_type_one	lead_time	0.151
14	room_type_reserved_room_type_seven	market_segment_type_complementary	0.163
15	room_type_reserved_room_type_seven	no_of_children	0.165
16	no_of_previous_cancellations	market_segment_type_complementary	0.173
17	no_of_children	market_segment_type_online	0.179
18	no_of_adults	no_of_special_requests	0.203
19	type_of_meal_plan_not_selected	room_type_reserved_room_type_one	0.207
20	type_of_meal_plan_meal_plan_one	room_type_reserved_room_type_four	0.213
21	market_segment_type_online	room_type_reserved_room_type_four	0.221
22	no_of_adults	market_segment_type_online	0.222
23	no_of_previous_bookings_not_canceled	market_segment_type_complementary	0.234
24	market_segment_type_complementary	repeated_guest	0.236
25	type_of_meal_plan_meal_plan_two	lead_time	0.255
26	no_of_week_nights	no_of_weekend_nights	0.256
27	market_segment_type_offline	room_type_reserved_room_type_one	0.257
28	no_of_adults	avg_price_per_room	0.268
29	type_of_meal_plan_not_selected	market_segment_type_online	0.270
30	no_of_previous_cancellations	no_of_previous_bookings_not_canceled	0.275
31	market_segment_type_offline	lead_time	0.280
32	avg_price_per_room	room_type_reserved_room_type_four	0.281
33	market_segment_type_online	avg_price_per_room	0.282
34	market_segment_type_corporate	no_of_previous_bookings_not_canceled	0.292
35	market_segment_type_online	no_of_special_requests	0.309
36	room_type_reserved_room_type_four	no_of_adults	0.310
37	market_segment_type_offline	type_of_meal_plan_meal_plan_two	0.321
38	market_segment_type_corporate	repeated_guest	0.324
39	avg_price_per_room	no_of_children	0.413
40	avg_price_per_room	room_type_reserved_room_type_six	0.451
41	repeated_guest	no_of_previous_cancellations	0.582
42	repeated_guest	no_of_previous_bookings_not_canceled	0.653
43	no_of_children	room_type_reserved_room_type_six	0.713
44	no_of_adults	no_of_adults	NaN

SUGGESTED CORRELATED FEATURES TO DELETE

	10 Feature(s) to Delete	Correlation
0	market_segment_type_complementary	0.100
2	market_segment_type_corporate	0.103
5	no_of_adults	0.117
7	no_of_children	0.128
10	market_segment_type_online	0.138
13	room_type_reserved_room_type_one	0.151
25	type_of_meal_plan_meal_plan_two	0.255
31	market_segment_type_offline	0.280
40	avg_price_per_room	0.451
43	no_of_children	0.713

END OF REPORT

MAADSBML Python Library:https://pypi.org/project/maadsbml/
MAADSBML Docker Container For Windows: https://hub.docker.com/r/maadsdocker/maads-batch-automl-otics
MAADSBML Docker Container For MAC: https://hub.docker.com/r/maadsdocker/maads-batch-automl-otics-arm64
MAADSBML Sample Code and Setup: https://github.com/smaurice101/raspberrypi/tree/main/maadsbml

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