Results

Naive Bayes Classification

Naive Bayes Classification

Smoothing	n(Train)	n(Test)	Test Accuracy
0.000	8800	2199	0.649

Data Split

Confusion Matrix

		Predicted	
		0	1
Observed	0	362	523
	1	249	1065

Model Performance Metrics

	0	1	Average / Total
Support	885	1314	2199
Accuracy	0.649	0.649	0.649
Precision (Positive Predictive Value)	0.592	0.671	0.639
Recall (True Positive Rate)	0.409	0.811	0.649
False Positive Rate	0.189	0.591	0.390
False Discovery Rate	0.408	0.329	0.368
F1 Score	0.484	0.734	0.633
Matthews Correlation Coefficient			NaN
Area Under Curve (AUC)	0.610	0.610	0.610
Negative Predictive Value	0.671	0.592	0.632
True Negative Rate	0.811	0.409	0.610
False Negative Rate	0.591	0.189	0.390
False Omission Rate	0.329	0.408	0.368
Threat Score	0.355	0.822	0.588
Statistical Parity	0.278	0.722	1.000

Note. All metrics are calculated for every class against all other classes.

Feature Importance Metrics

	Mean dropout loss
Weight_in_gms	0.488
Product_importance	0.403
Mode_of_Shipment	0.400
Customer_care_calls	0.398
Cost_of_the_Product	0.393

Note. Mean dropout loss is based on 50 permutations.

Posterior Statistics

Feature: Cost_of_the_Product

	Mean	Std. deviation
0	0.070	0.996
1	−0.060	1.001

Note. The table displays the mean and standard deviation of the feature given the target class.

Feature: Weight_in_gms

	Mean	Std. deviation
0	0.340	0.955
1	−0.219	0.967

Note. The table displays the mean and standard deviation of the feature given the target class.

Feature: Product_importance

	high	low	medium
0	0.074	0.486	0.44
1	0.095	0.474	0.431

Note. The table displays the conditional probabilities given the target class.

Feature: Customer_care_calls

	2	3	4	5	6	7
0	0.047	0.276	0.327	0.219	0.105	0.026
1	0.063	0.307	0.324	0.206	0.079	0.021

Note. The table displays the conditional probabilities given the target class.

Feature: Mode_of_Shipment

	Flight	Road	Ship
0	0.163	0.163	0.674
1	0.161	0.162	0.677

Note. The table displays the conditional probabilities given the target class.

Andrews Curves Plot