Final Exam Advanced BDA William - 00000042609

Creation Date: Tuesday, December 20, 2022 12:33:45 AM
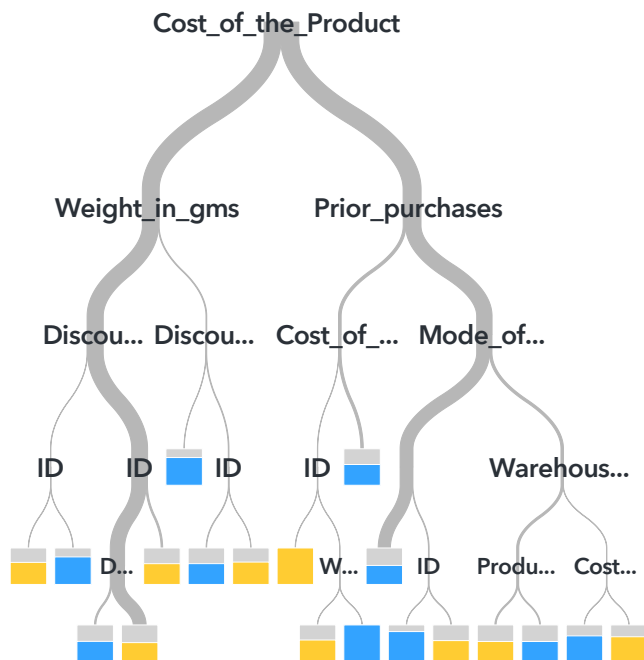Author: william13@student.umn.ac.id

Decision Tree Model
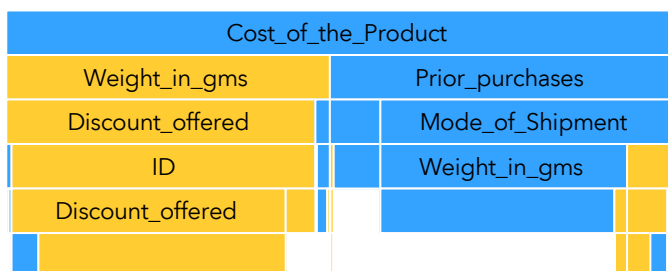
Decision Tree of Gender

Decision Tree **Gender** (event=M) Misclassification Rate **0.4658** Observations Used **10,999**
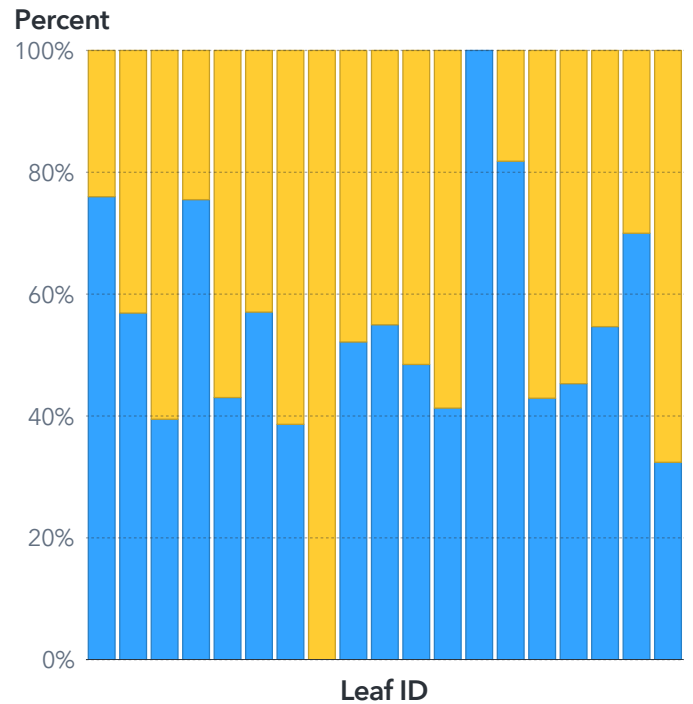
Tree
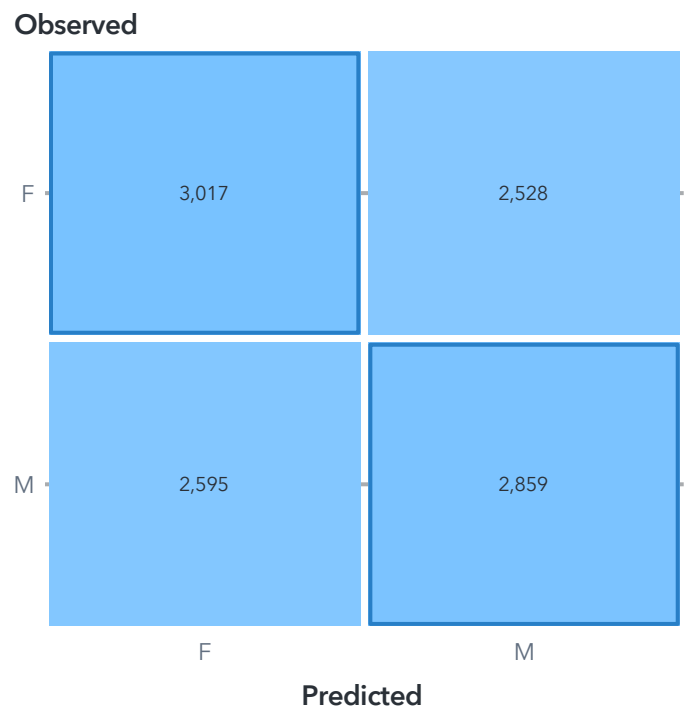
Cost_of_the_Product

Weight_in_gms   Prior_purchases

Discou... Discou...   Cost_of_... Mode_of...

ID   ID   ID   ID   Warehous...

D...   W...   ID   Produ... Cost...

Gender
■ F ■ M

Cost_of_the_Product

Weight_in_gms	Prior_purchases
Discount_offered	Mode_of_Shipment
ID	Weight_in_gms
Discount_offered	

Leaf Statistics

Percent

Leaf ID

Confusion Matrix

Observed

	Predicted F	Predicted M
F	3,017	2,528
M	2,595	2,859

Predicted
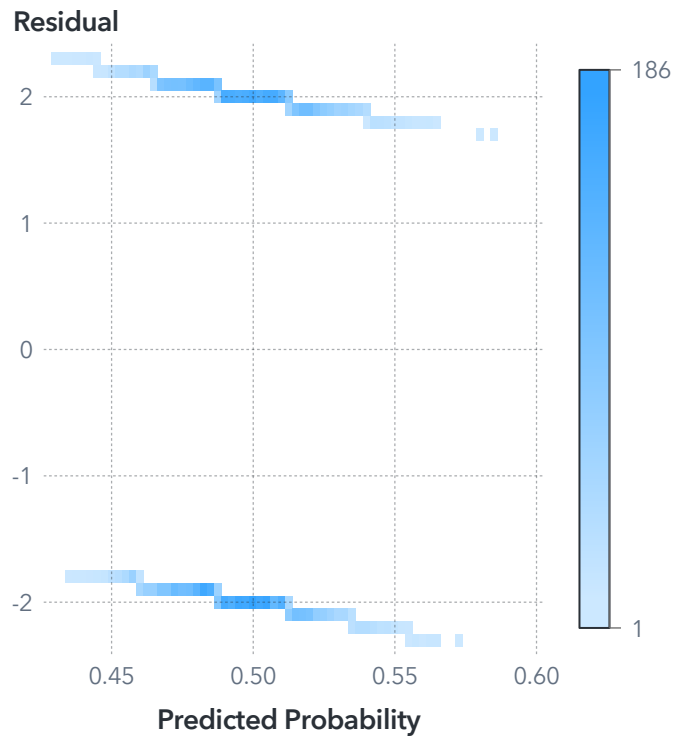
Logistic Regression Model

Logistic Regression **Gender** (event=M) Validation Misclassification Rate (Event) **0.5033**
Observations Used **10,999**

Fit Summary

Cost_of_the_Product
Weight_in_gms
ID
Customer_rating
Customer_care_calls
Mode_of_Shipment
Product_importance
Warehouse_block
Reached.on.Time_Y.N
Discount_offered
Prior_purchases

0.1   0.001   <0.00001

p-value

Residual Plot

Residual

186

1

0.45   0.50   0.55   0.60

Predicted Probability

Confusion Matrix

Observed

| Predicted	F	M	F	M
F	2,259	1,616	934	736
M	2,094	1,730	925	705

Partition | Training | Validation

2

Neural Network Model

Neural Network **Gender** (event=M) Validation Misclassification Rate **0.4939** Observations Used **10,999**
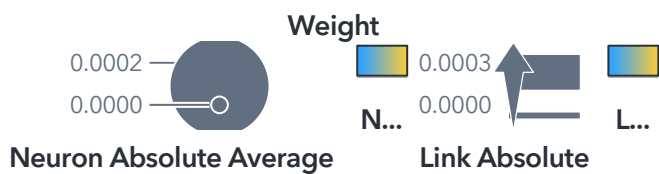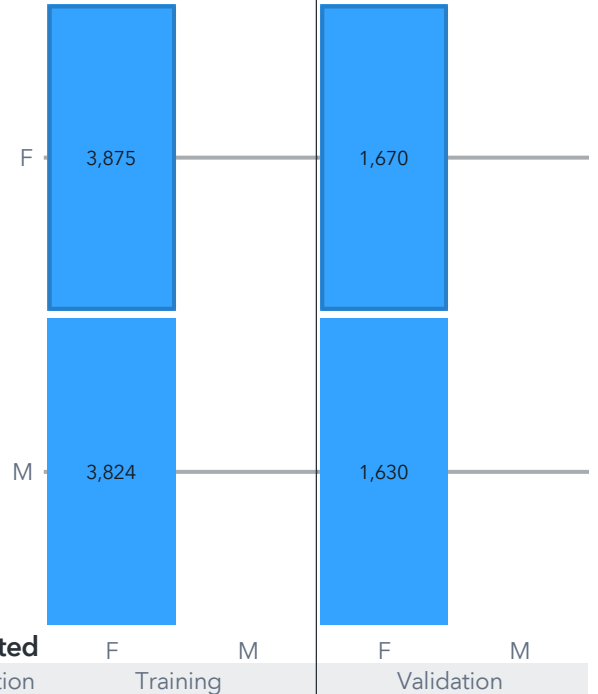
Network

	Weight		
0.0002 —		0.0003	
0.0000 —	N...	0.0000	L...
Neuron Absolute Average		**Link Absolute**	
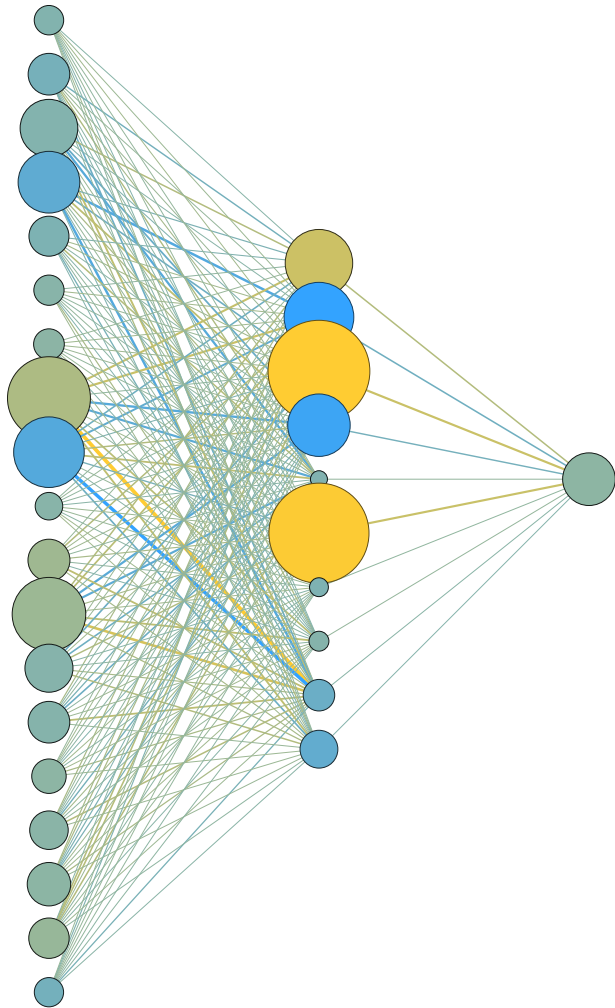
Iteration Plot

Objective / Loss

— Objective   — Loss

Confusion Matrix

Observed

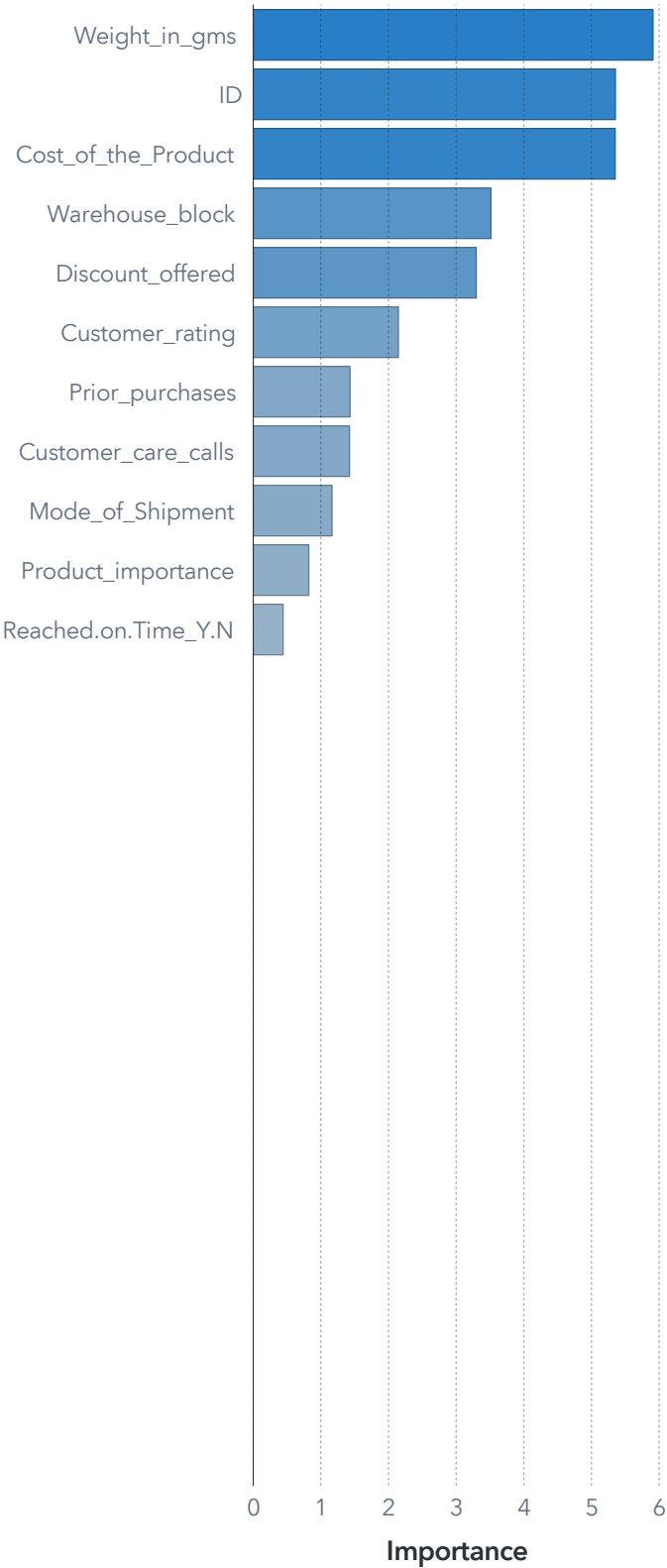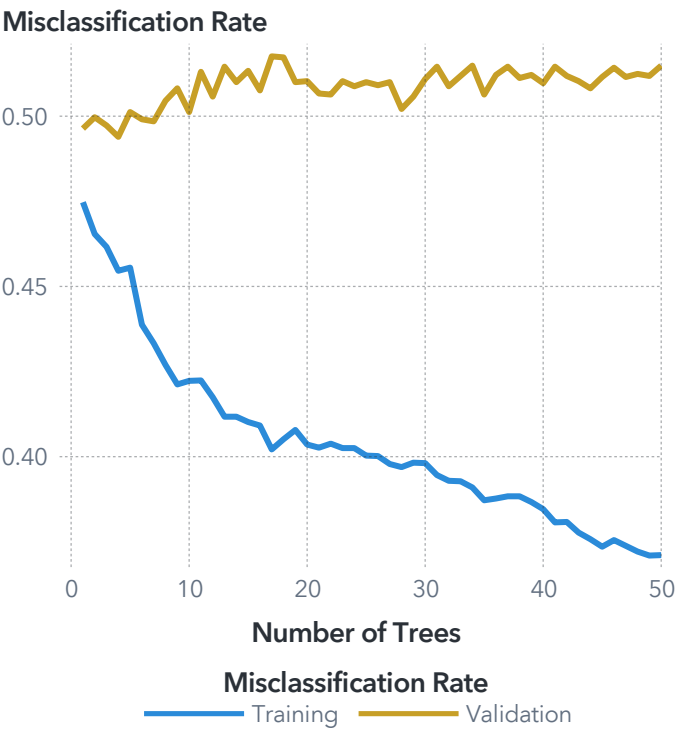|	Training		Validation	
F	3,875		1,670	
M	3,824		1,630	
Predicted	F	M	F	M
Partition	Training		Validation	
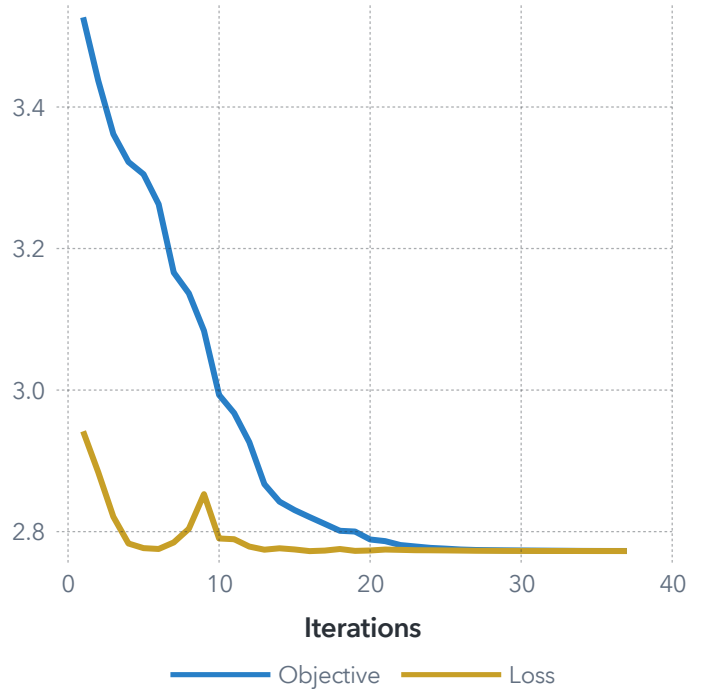
Gradient Boosting Model

Gradient Boosting **Gender** (event=M) Misclassification Rate **0.3711** Observations Used **10,999**

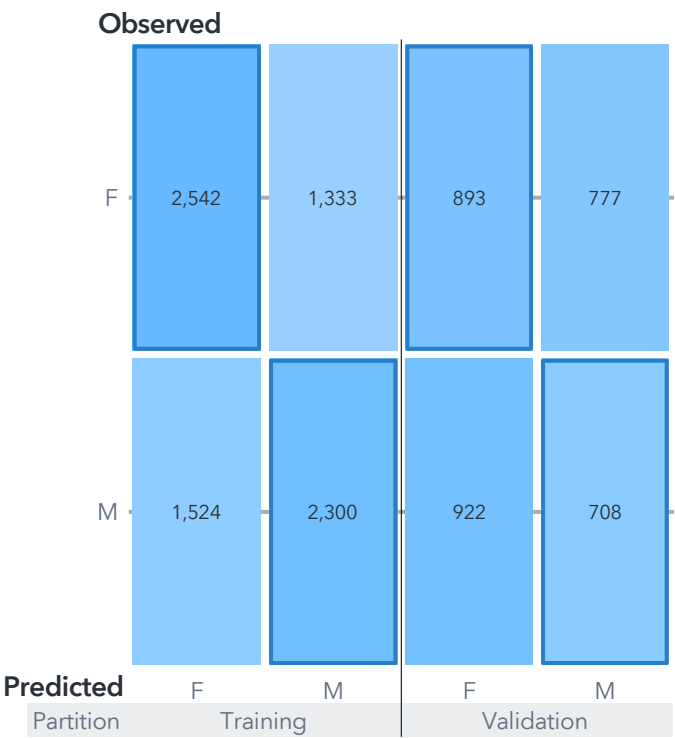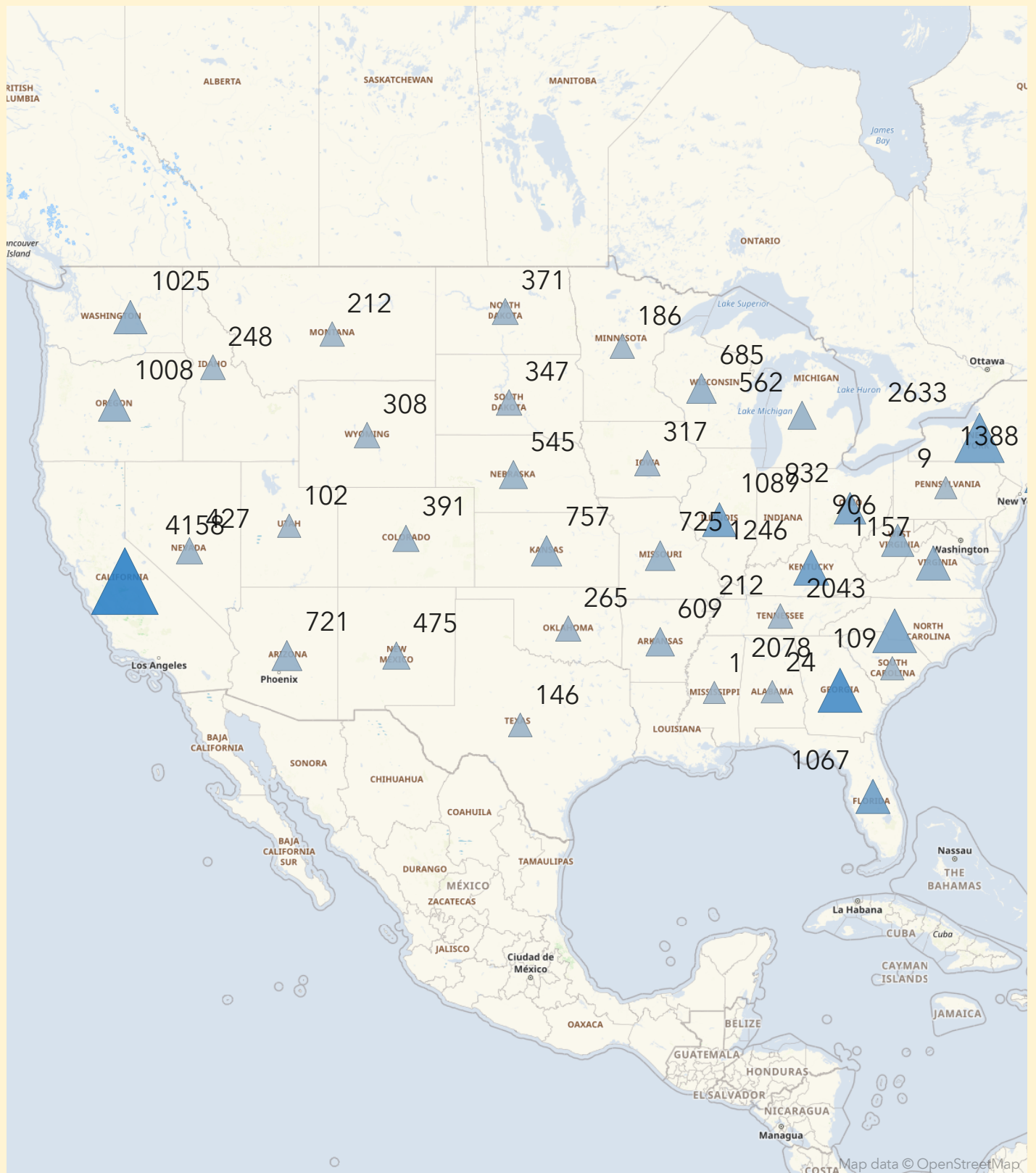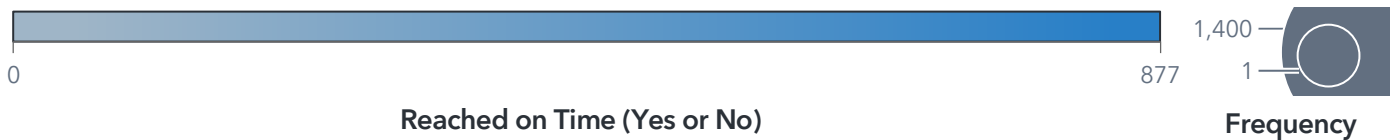## Variable Importance

Iteration Plot

Misclassification Rate

Confusion Matrix

Cartography

Reached on Time (Yes or No)
0 — 877

Frequency
1,400
1

Interactive Mapping

Reached on Time (Yes o...

877 —⬤
0 —•
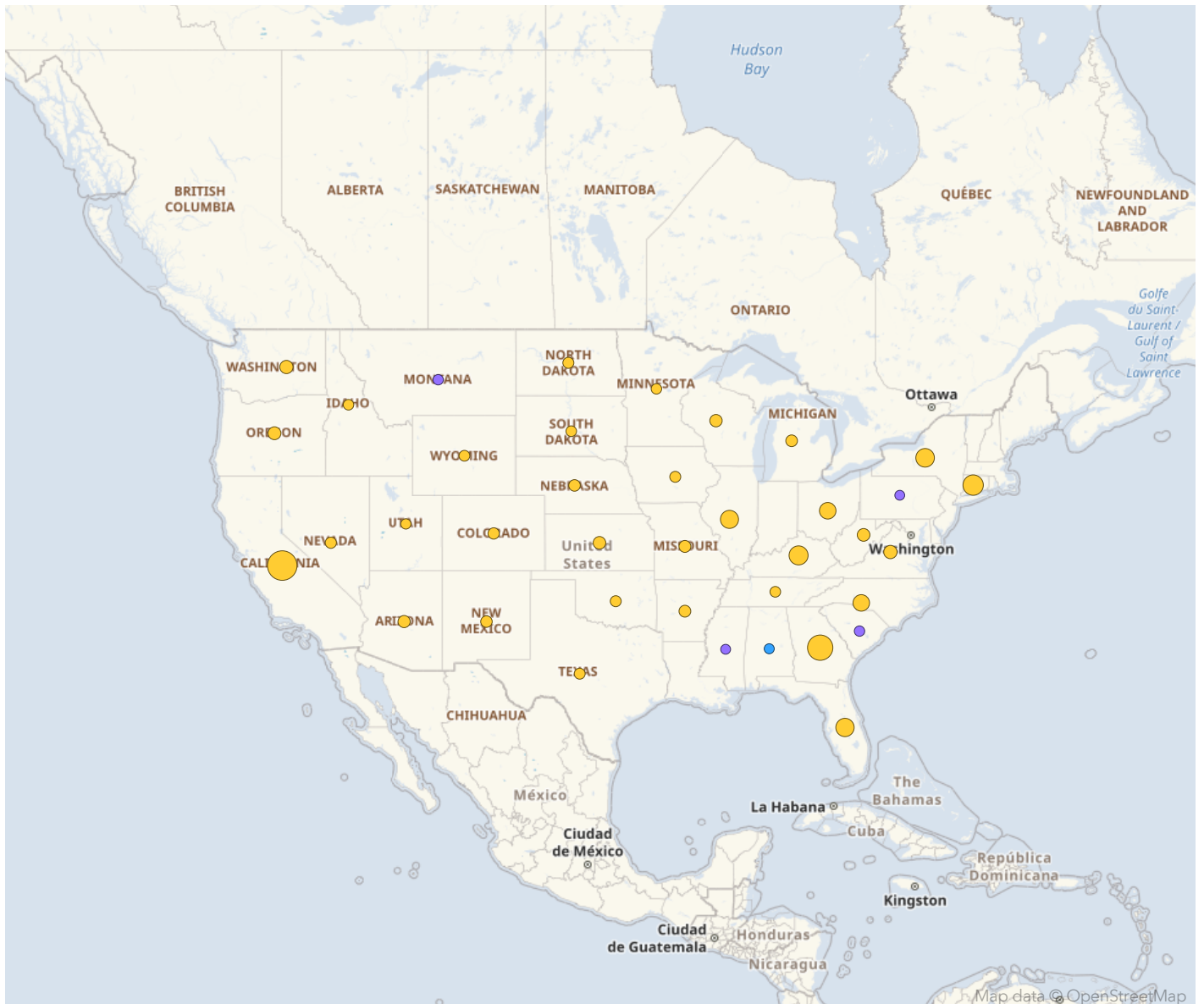
Mode of Shipment

🟧 (multiple values) 🟦 Flight 🟪 Ship

⚠ A1.1

☐ Flight
☑ Road
☐ Ship

high (193270)

Appendix

A1.1   Geo network - State 1

Warnings: The network does not have all target nodes defined in the source column. As a result some nodes and edges might be missing in the diagram or have missing attributes. Missing items: [2, 3, 4, 5, 6, 7, 8, 10]