Model Metrics Capstone Three:

Confusion matrix
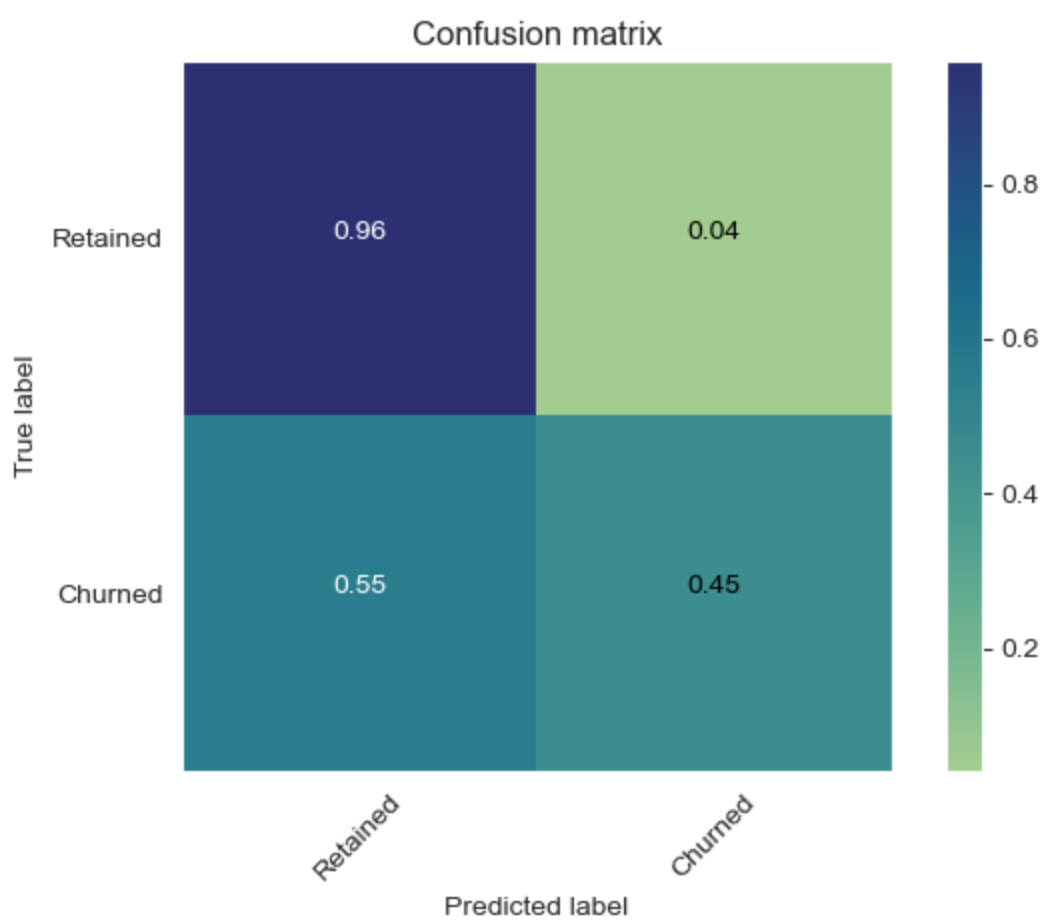
Random Forest Baseline Model

Confusion matrix
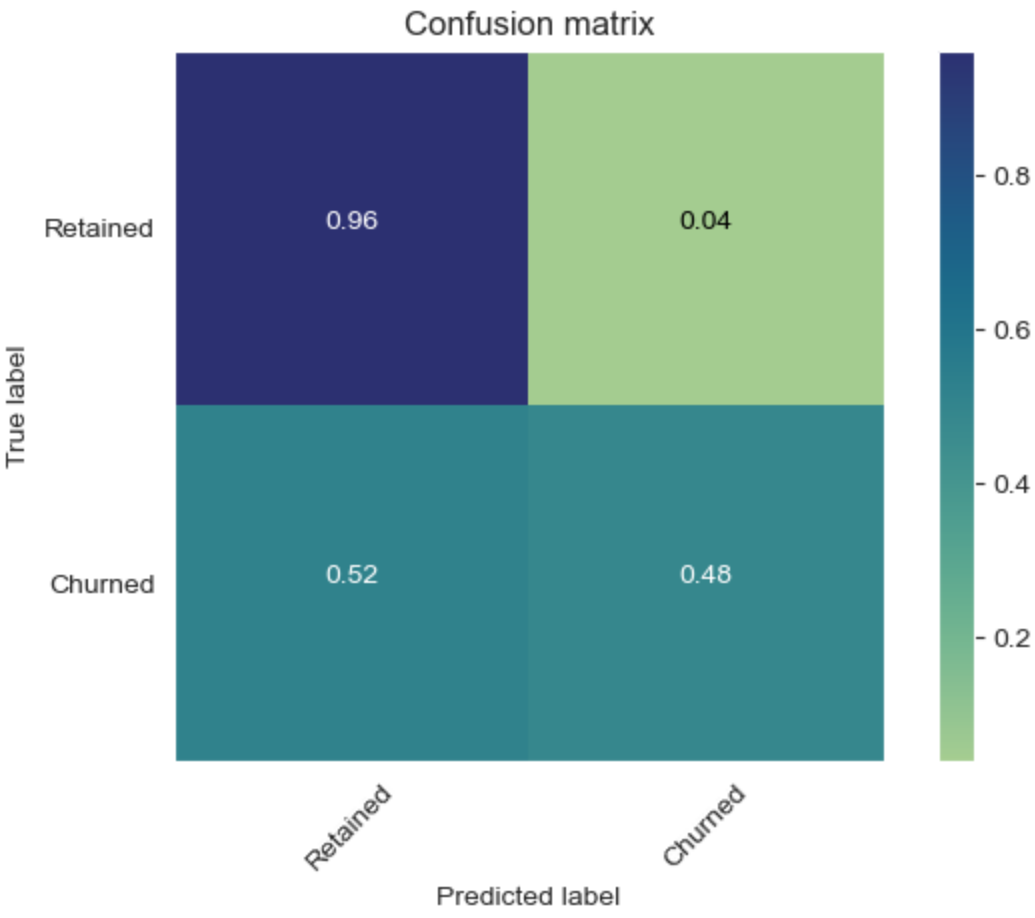
Gradient Boost Baseline Model

Confusion matrix

XGB Baseline Model

Confusion matrix
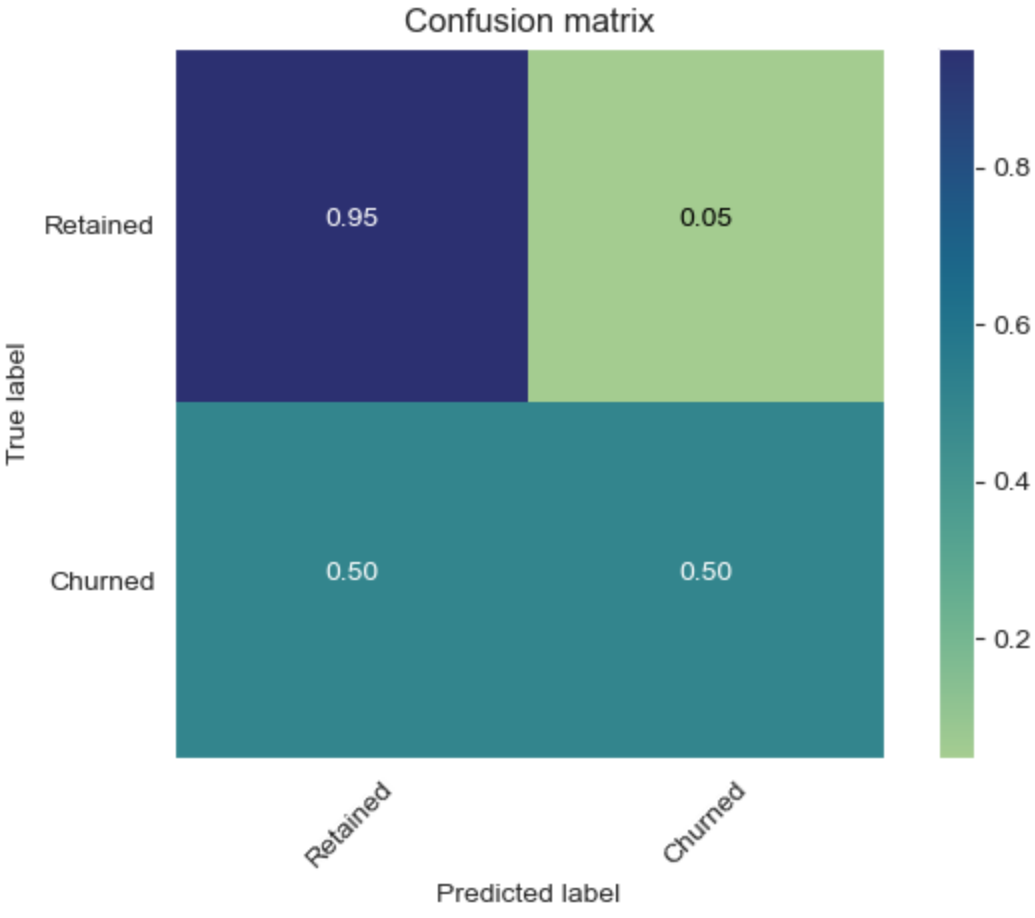
Refined XGB Model

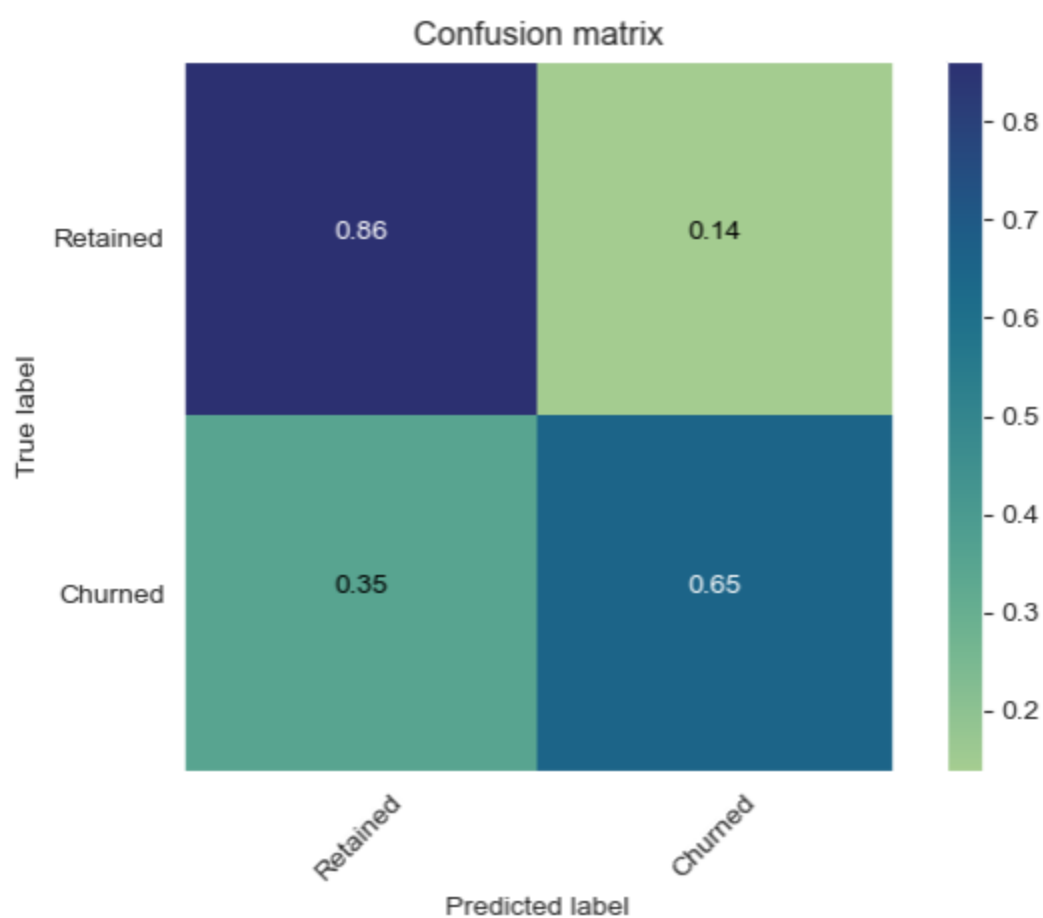**Final Model Stats:**

Final XGBoost Model Stats:

Precision for Class 0 (Customer Retained): 90%. This means that for all positive class 0 predictions (predicting a customer as retained), 90% of them were correct.

Recall for Class 0 (Customer Retained): 86%. This means our model was able to capture 86% of positive instances. 86% of the time, if a customer was indeed retained and not churned, the model captured it.

Precision for Class 1 (Customer Churned): 55%. This means that for all positive class 1 predictions (predicting a customer as churned), 55% of them were correct.

Recall for Class 1 (Customer Churned): 65%. This means our model was able to capture 65% of positive instances. 65% of the time, if a customer was indeed churned and not retained, the model captured it. A 15% increase from the baseline model.