



Telco Customer Churn

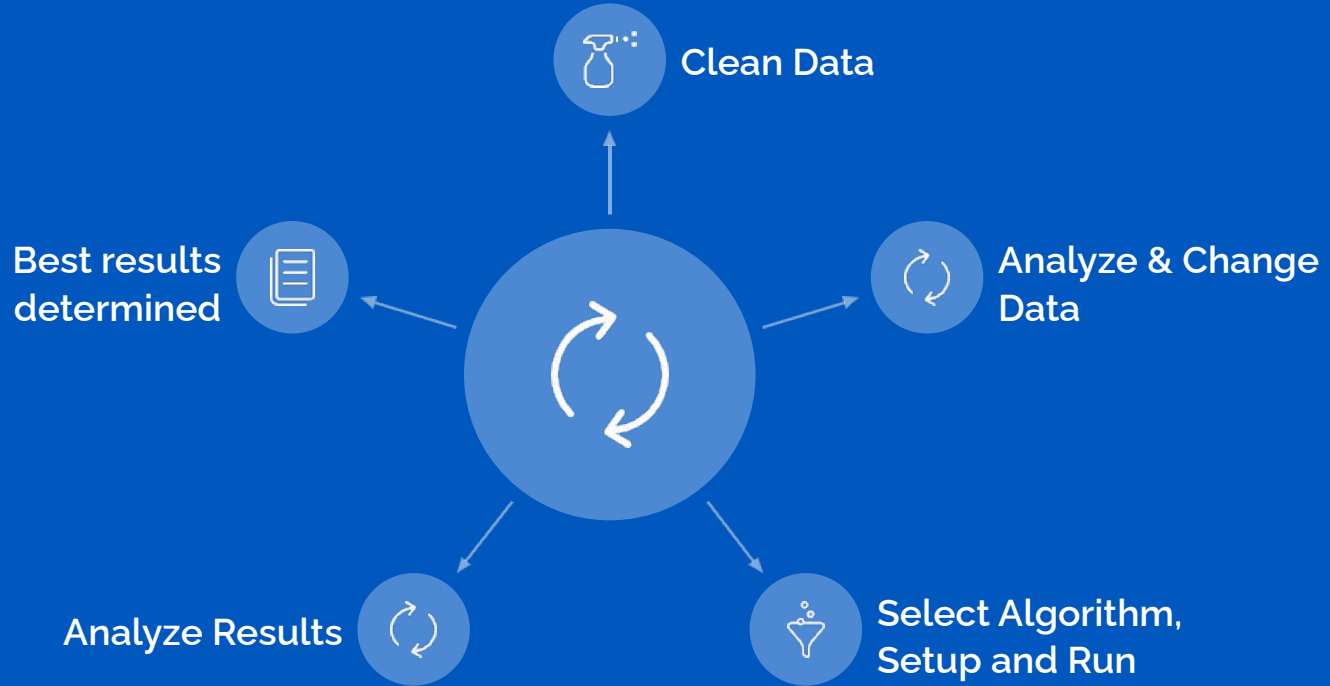
Retaining Customers in the Telecommunications Industry

Joan Leonard-Short

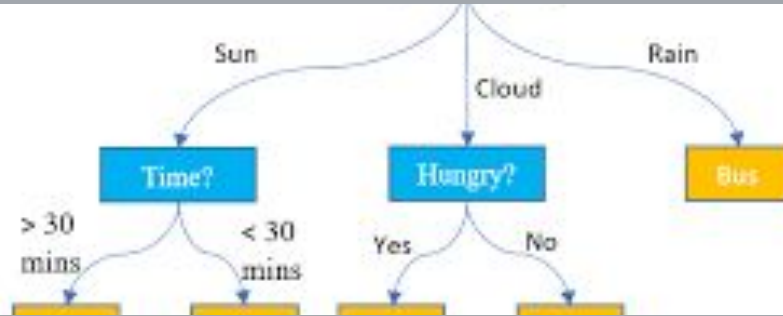
The Challenge and Objective

- CHURN AT TELCO IS CURRENTLY 26.3%. CHURN ADDS SIGNIFICANT COSTS TO THE COMPANY
- MOST OF THE COSTS RELATE TO THE INITIAL DISCOUNTS GIVEN TO A CUSTOMER AND THE INITIAL COST OF SETTING UP A CUSTOMER.
- OUR OBJECTIVE WAS TO OBTAIN, UNDERSTAND AND ANALYZE THE DATASET PROVIDED BY THE CLIENT AND TO USE ANALYTICAL, GRAPHICAL AND STATISTICAL MEANS TO PREDICT CUSTOMER CHURN

Data Science Methodology

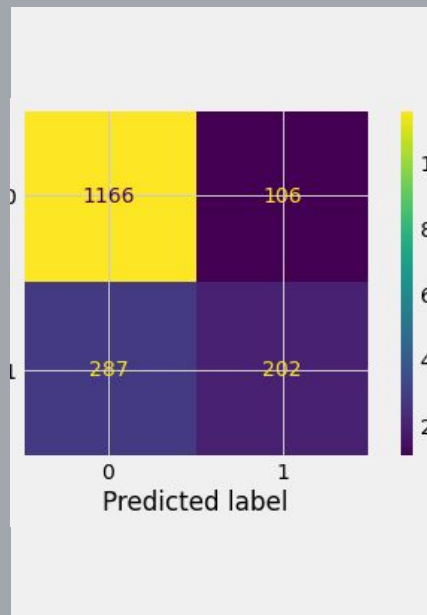


The 'Winning' Algorithm - Decision Trees



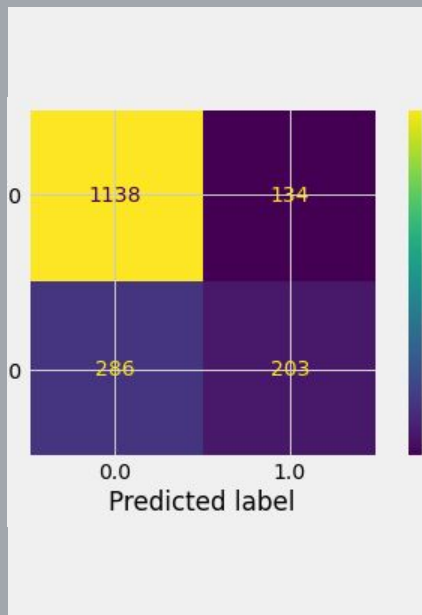
A decision tree is a tree-like model with leaves extending from features that represent decisions and their outcomes. The model endeavors to predict the best decisions for business problems.

The Process



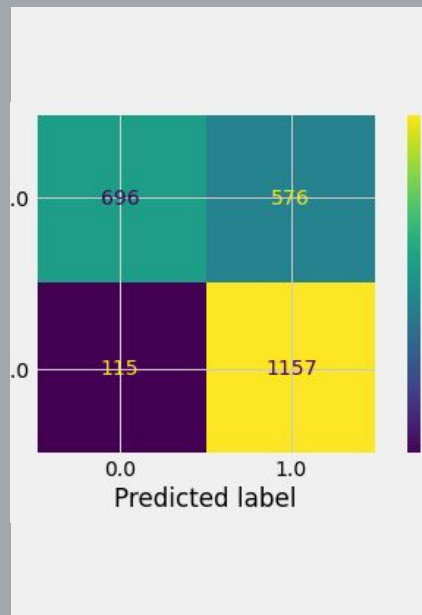
MODEL 1

True negatives high, true positives low - needs improvement



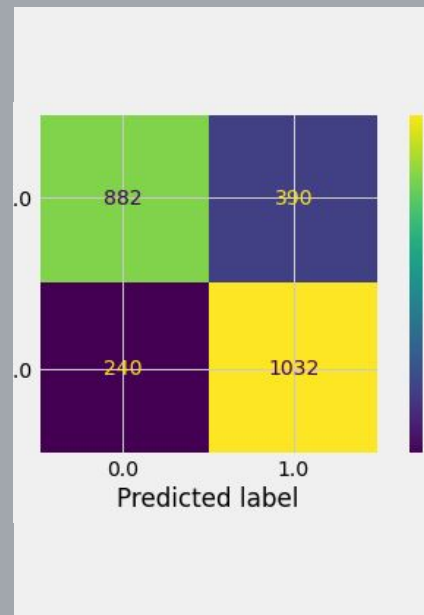
MODEL 2

Slight change



MODEL 3

Good Model

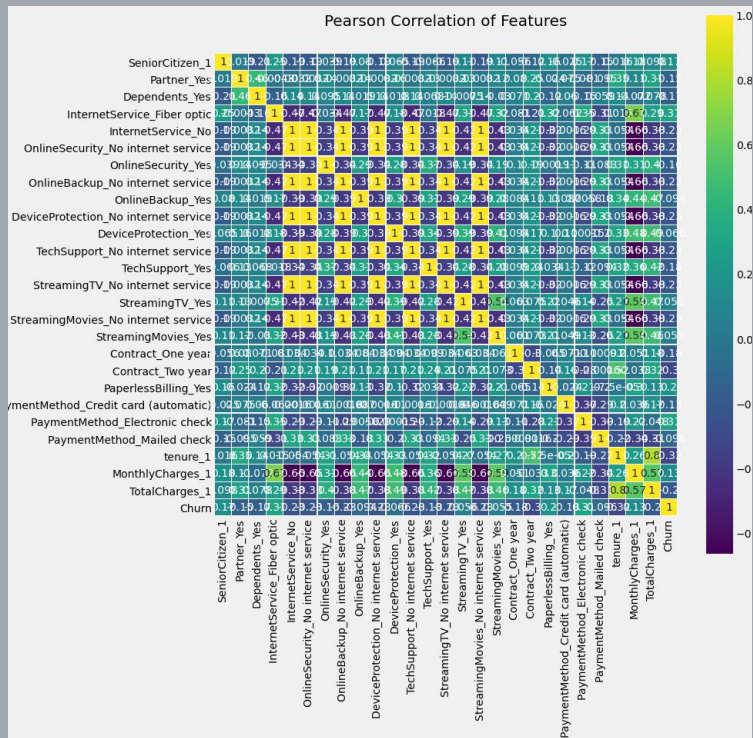


MODEL 4

No change - final results

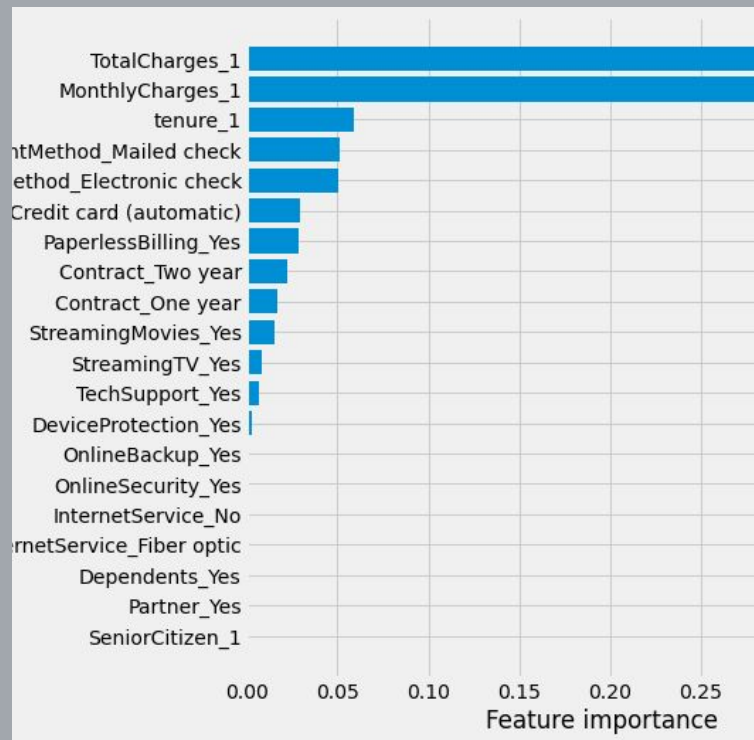
CONFUSION MATRICES

The process - paring unnecessary data



REDUNDANT FEATURES TO
DELETE

The process - paring unnecessary data



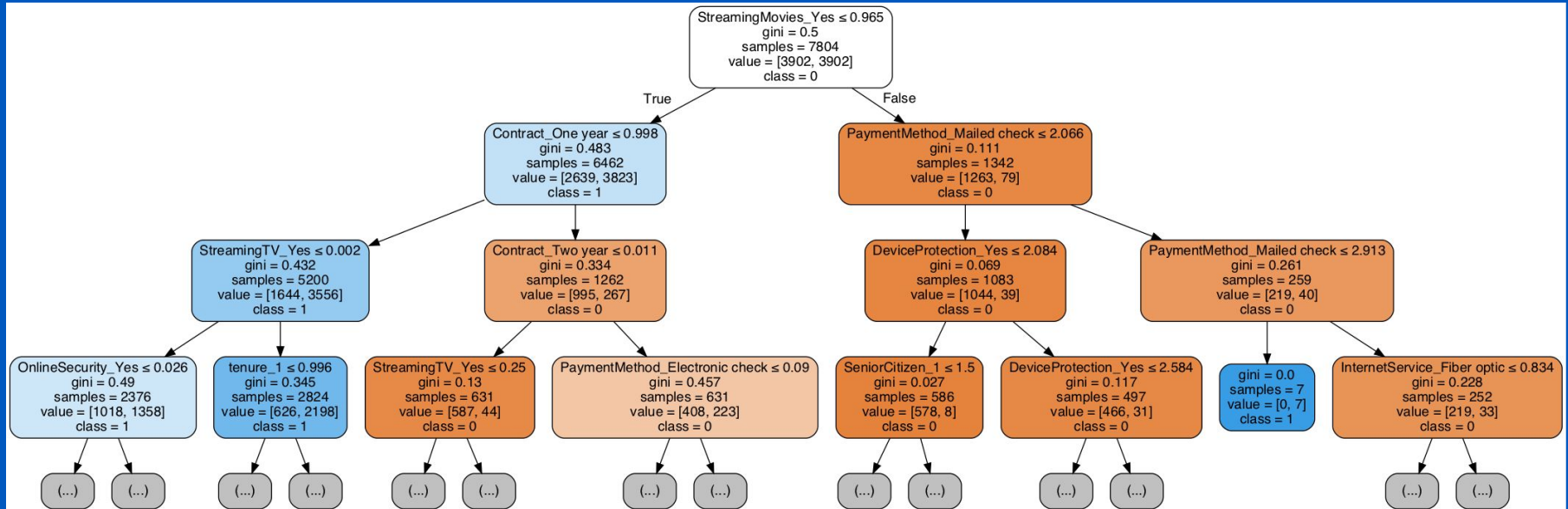
**DETERMINING THE BEST
FEATURES**

The Results

Sometimes, it's what you don't sell...

| Metric | Model 1 | Model4 |
|--------------|---------|--------|
| Accuracy | .779 | .75 |
| Recall - Yes | .413 | .81 |
| Recall - No | .92 | .69 |

Final Decision Tree



Recommendations for Churn Customers

DECISION TO CHURN:

People who have one year contracts but no streaming tv

Recommendation - Sell more streaming movies

People who pay by check are more likely to churn

Recommendation: Move more people to electronic payments

Senior Citizens are more likely to churn

Recommendation: Encourage younger people to engage - no plan required

Next Steps

DETERMINE METRICS TO DISCOURAGE CHURN

REVIEW PROGRESS IN 3-6 MONTHS

Thank you!

Joan Leonard-Short