

Deloitte AI Academy

Semester 2 Capstone Project

Customer Churn for Telecommunication Companies

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Business Problem



Situation:

- Client and business stakeholder: Telecommunication Companies
- Churning, which is defined as the loss of customers to competition is major issue for telecommunication companies because it is more costly for companies to acquire new customers than maintaining existing ones. Avoiding churn is the way to go for companies to remain profitable.



Objective:

- To predict whether customers will churn telecommunication providers or not through data models and accuracy (# of correct predictions/# of total test samples)

My Approach

1.

Figure out what problem I am trying to solve

2.

Deciding what data sets I will collect and how I will get that data

3.

Determining whether my data set requires any cleaning or pre-processing

4.

Choosing appropriate modeling techniques

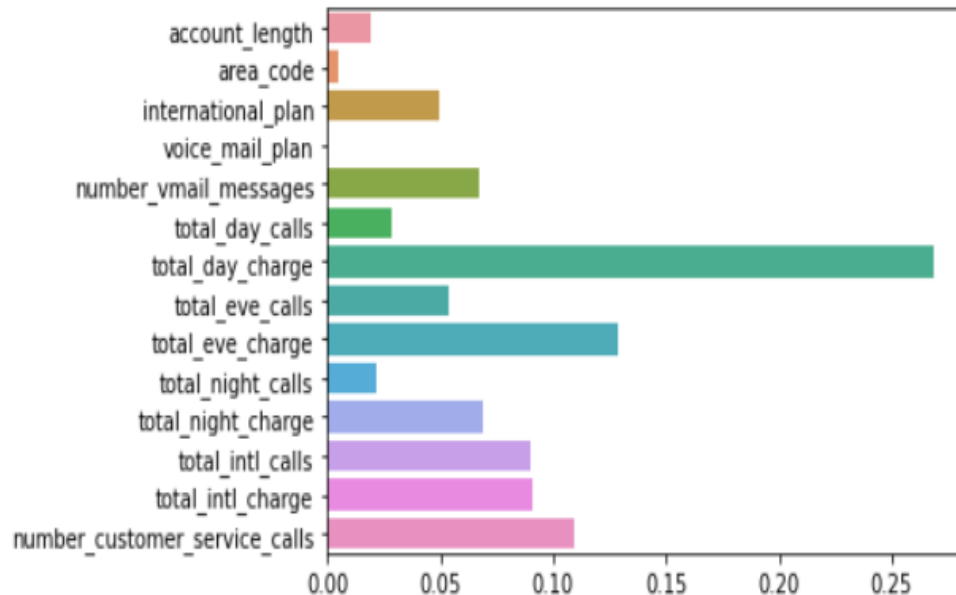
5.

Determining what factors contribute to customer churn – final analysis

Analysis

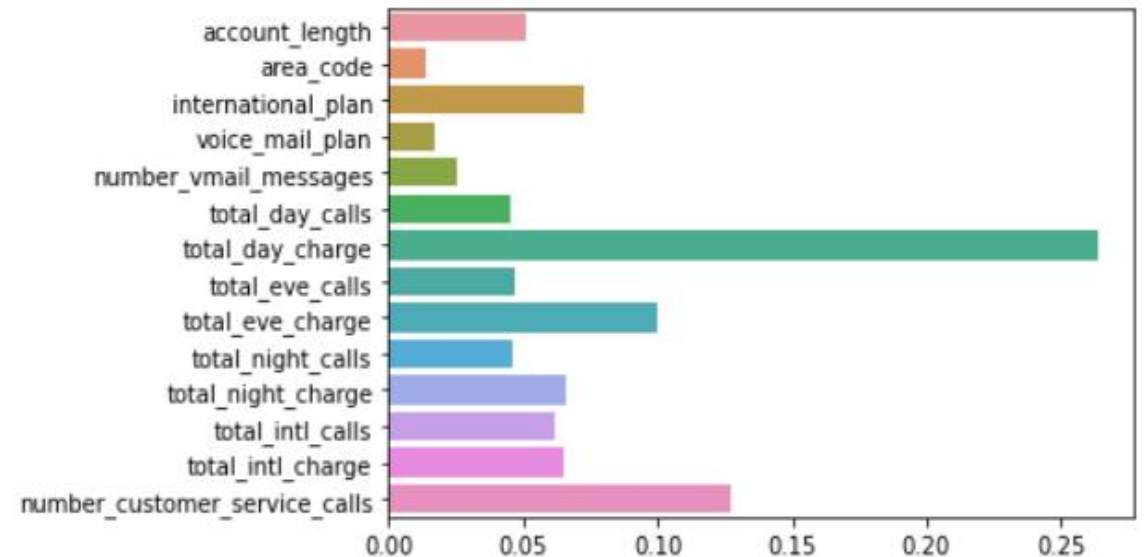
Decision Tree Classifier Analysis

- Accuracy of model: 0.915 → **92%**
- Most important features of Churn prediction using Decision Trees:

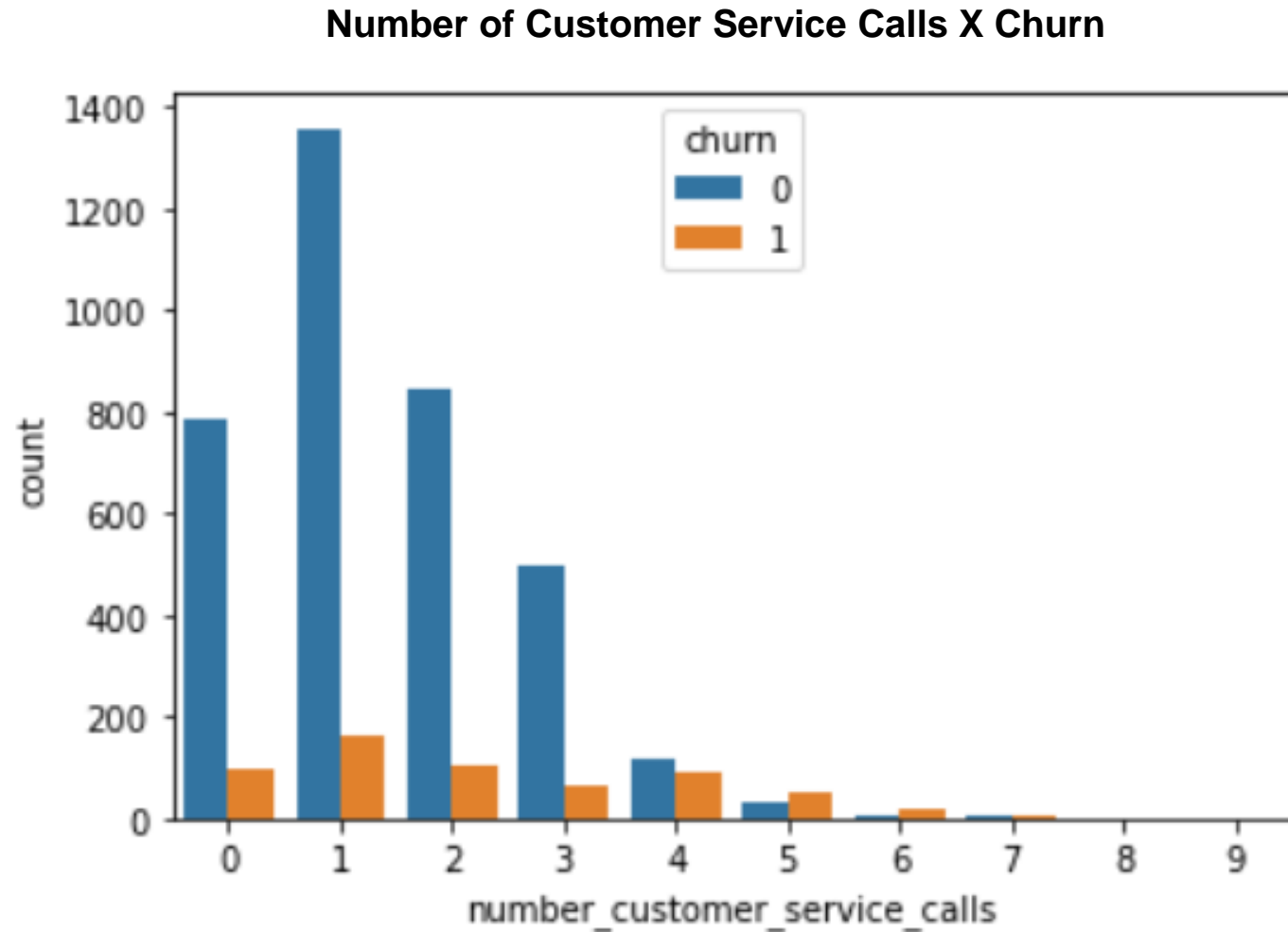


Random Forest Classifier Analysis

- Accuracy of model: 0.949 → **95%**
- Most important features of Churn prediction using Random Forest:

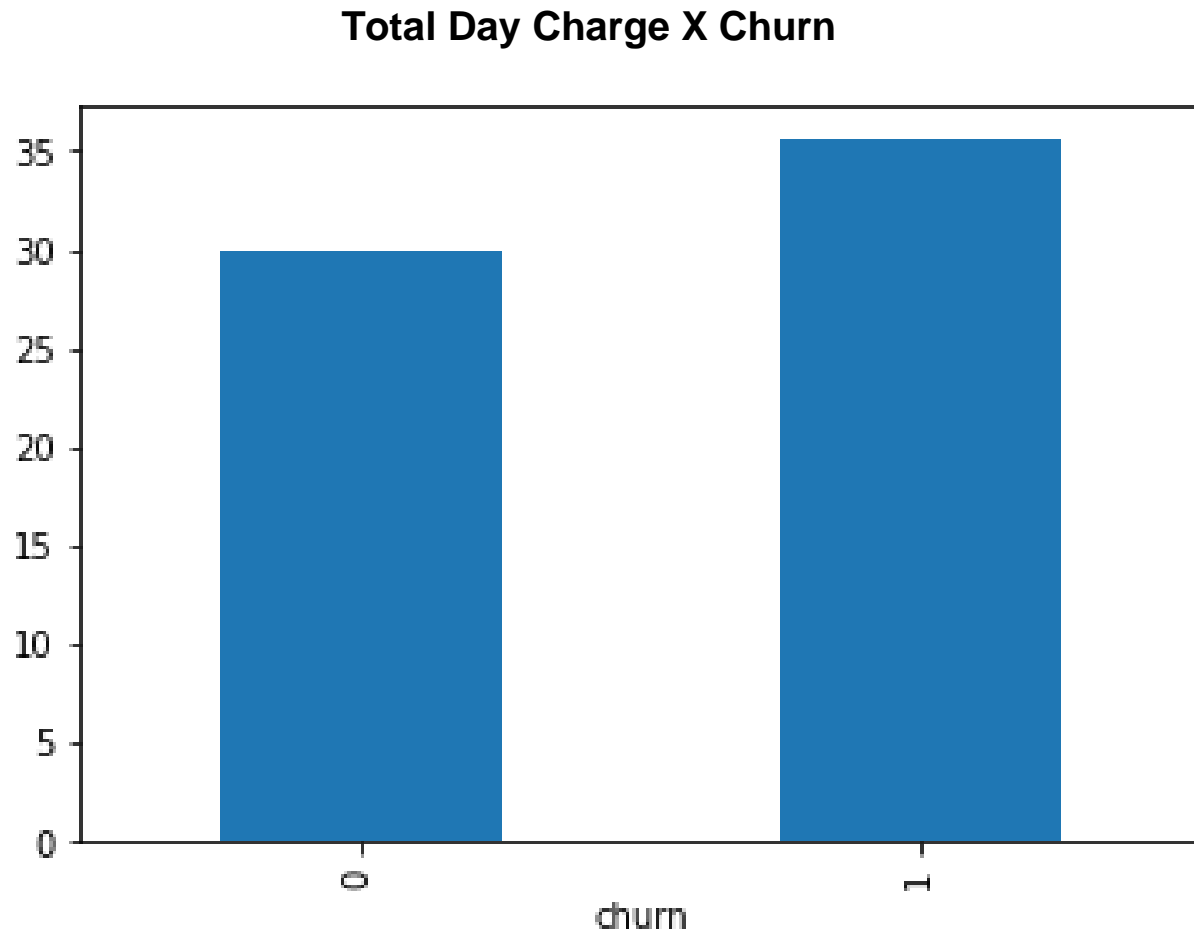


Evaluation of Important Features



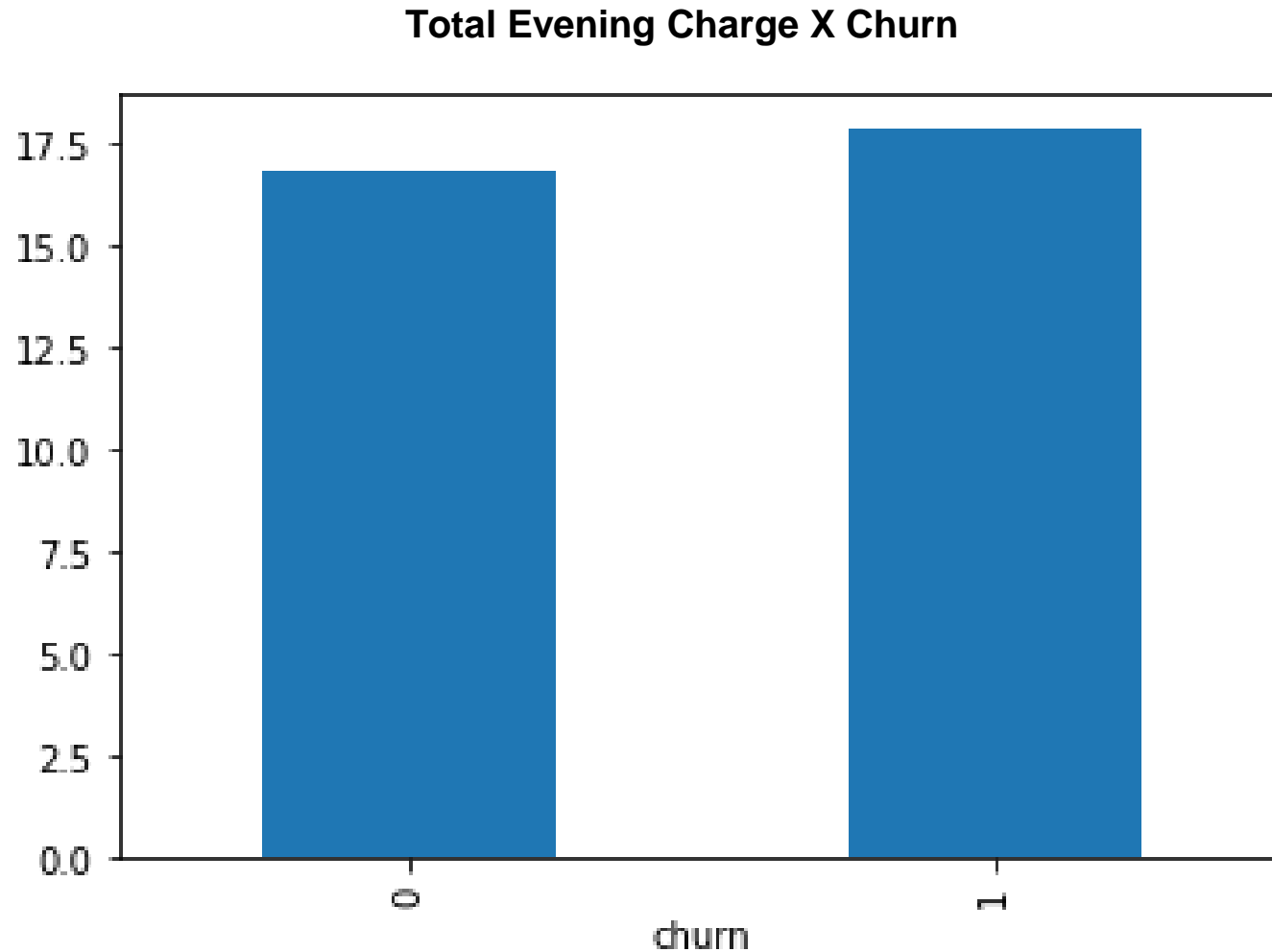
➤ *Recommendation: Look out for individuals who make more than 4 customer service calls*

Evaluation of Important Features Cont.



➤ *Recommendation:*
Account for those who are reaching a total day charge above 30 cents/minute

Evaluation of Important Features Cont.



➤ *Recommendation:*
Account for those who are reaching a total evening charge above 17.5 cents/minute

Questions?