

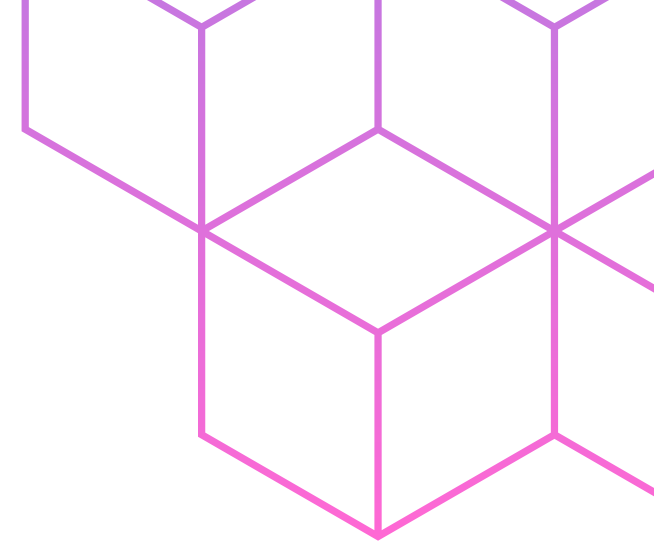
Telecom Churn Case Study

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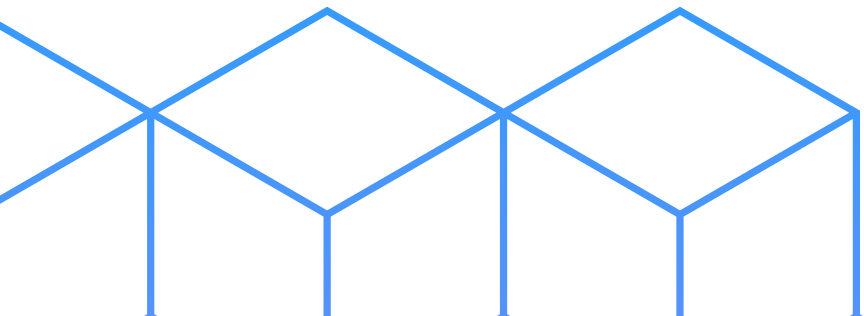
Background

- Telecom customers have a lot of choices. They can switch from one provider to another easily, so telecom companies need to work hard to keep their customers happy.
- The telecom industry has a high churn rate. This means that a lot of customers are leaving their providers every year.
- It's more expensive to acquire new customers than to retain existing ones. This means that telecom companies should focus on keeping their existing customers happy, rather than just trying to acquire new ones.

Business Objective



The business objective is to predict which customers are likely to churn in the ninth month, based on their behavior in the first three months. To do this well, it is important to understand the typical customer behavior that leads to churn.



Process for Solving Case Study

01

Data Understanding
and EDA

02

Handling the class
imbalance

03

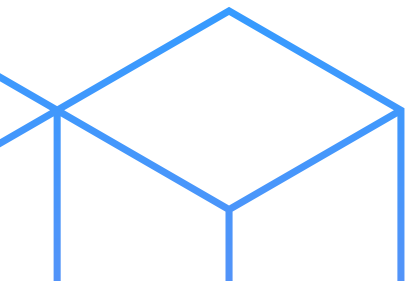
Model Building
Using Logistic Regression and
Decision Tree

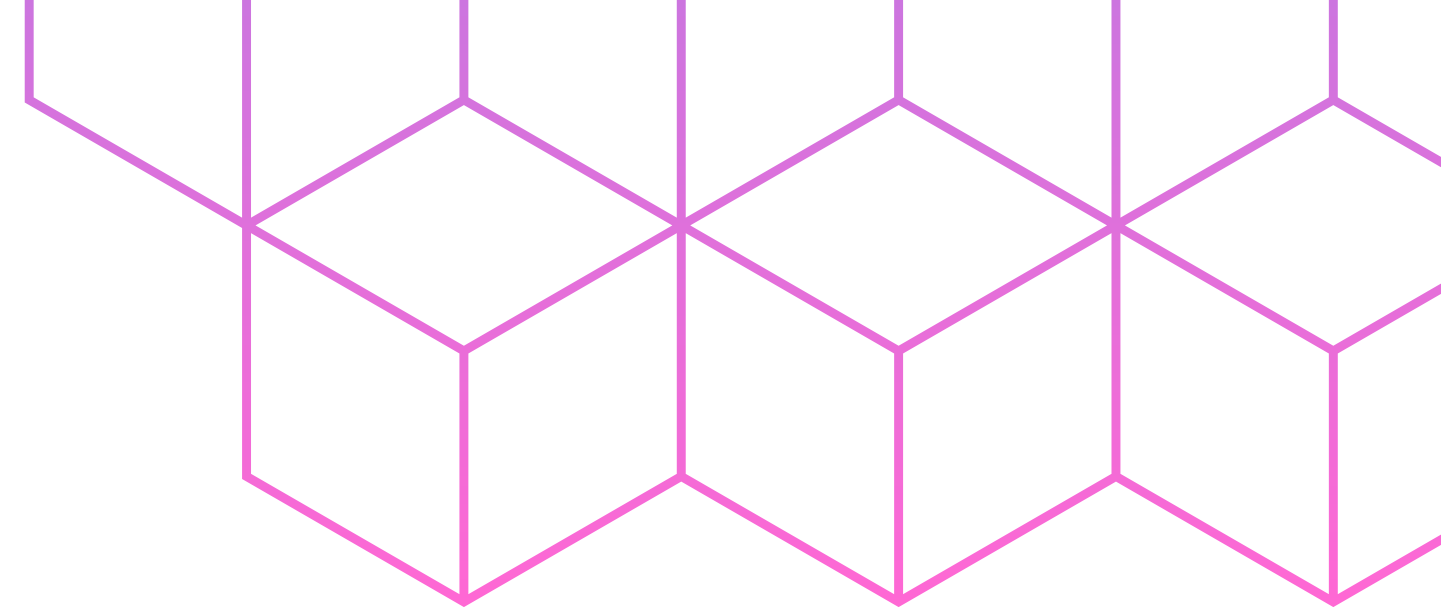
04

Feature Selection using
RFECV

05

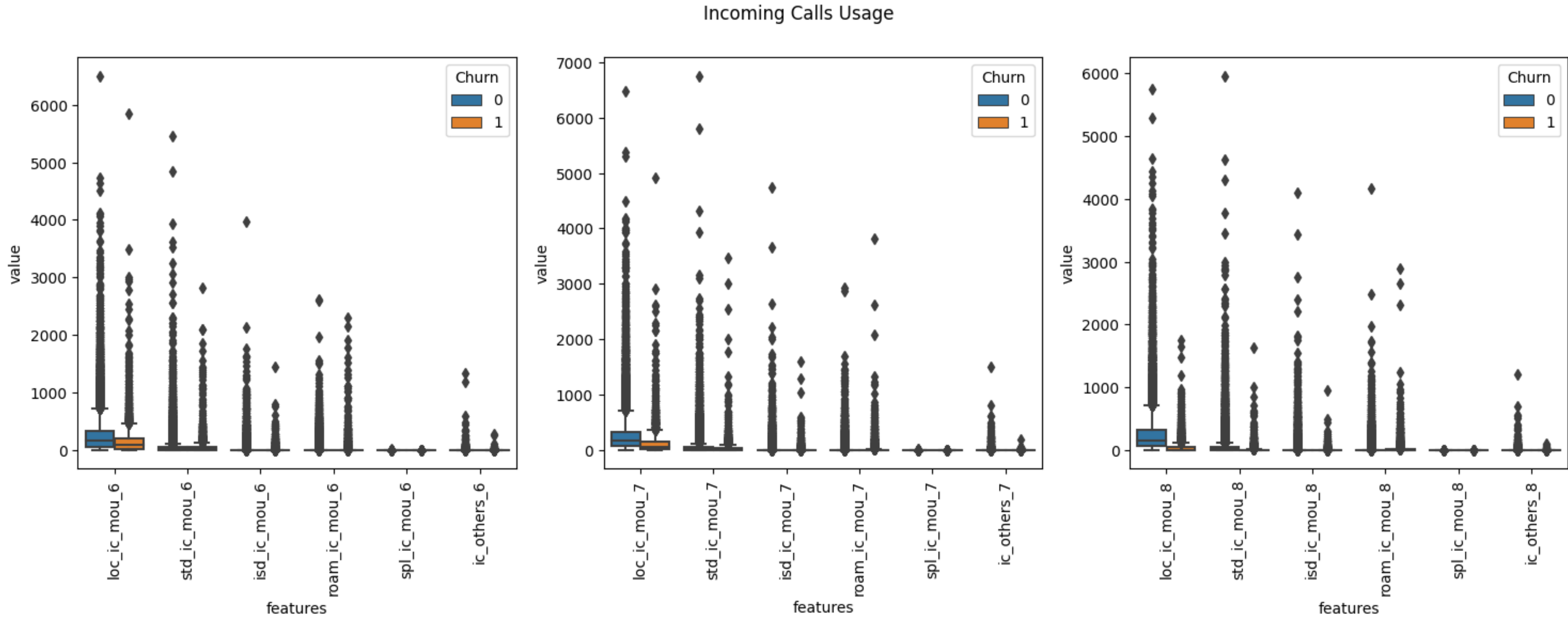
Business
Recommendations



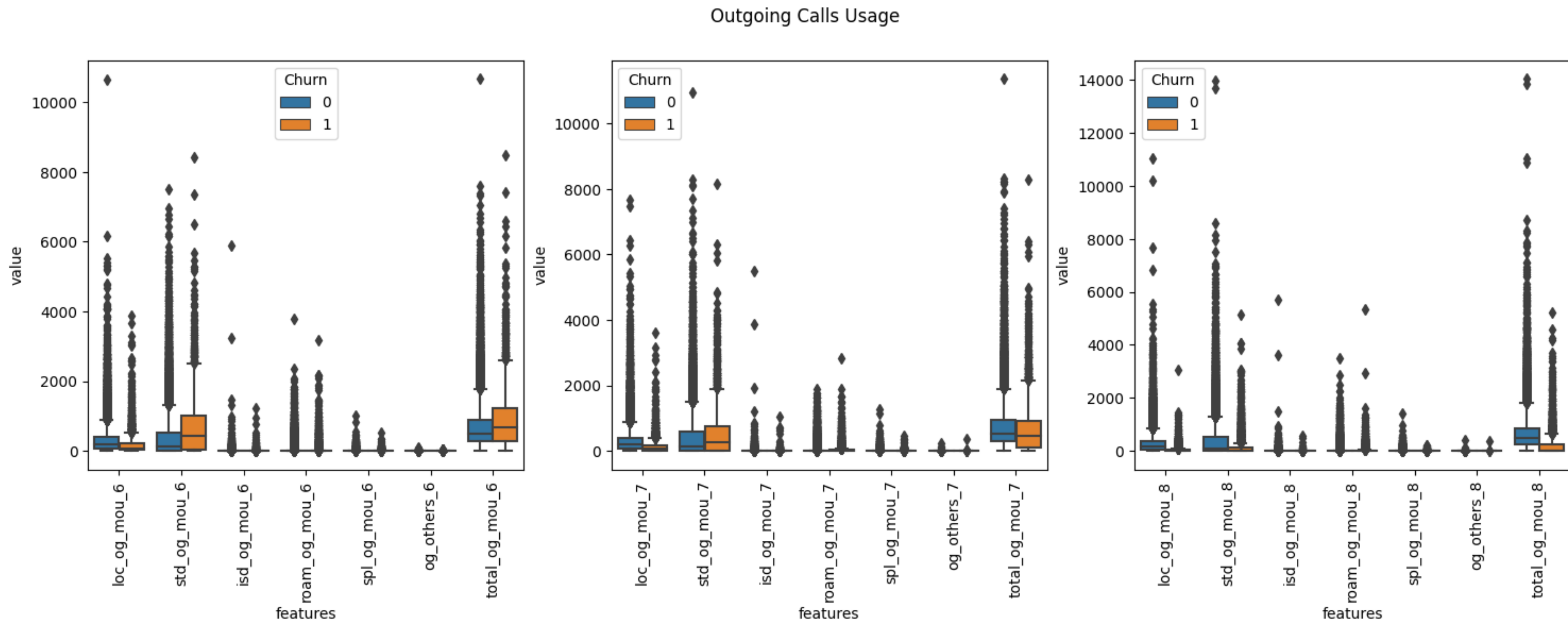


Plots (Visualization)

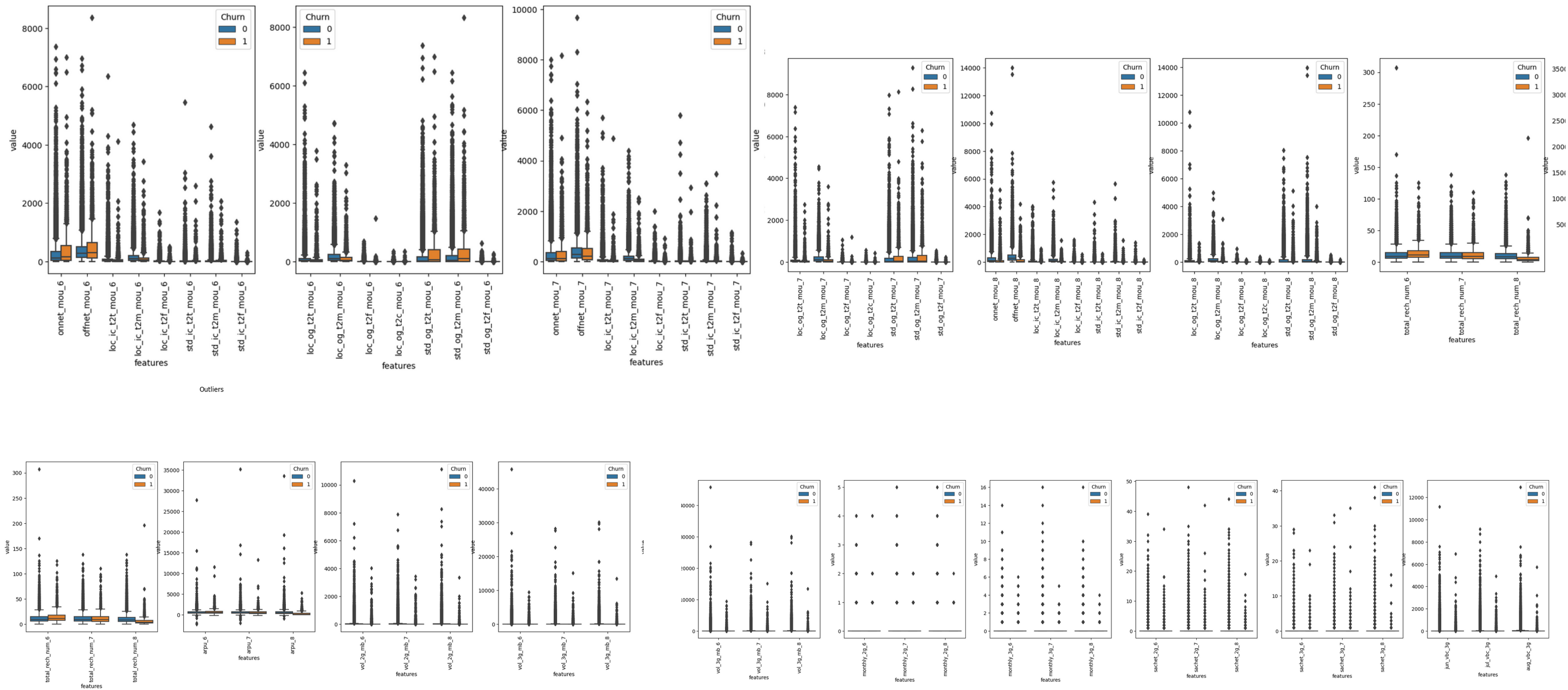
EDA box plot for the incoming call usage



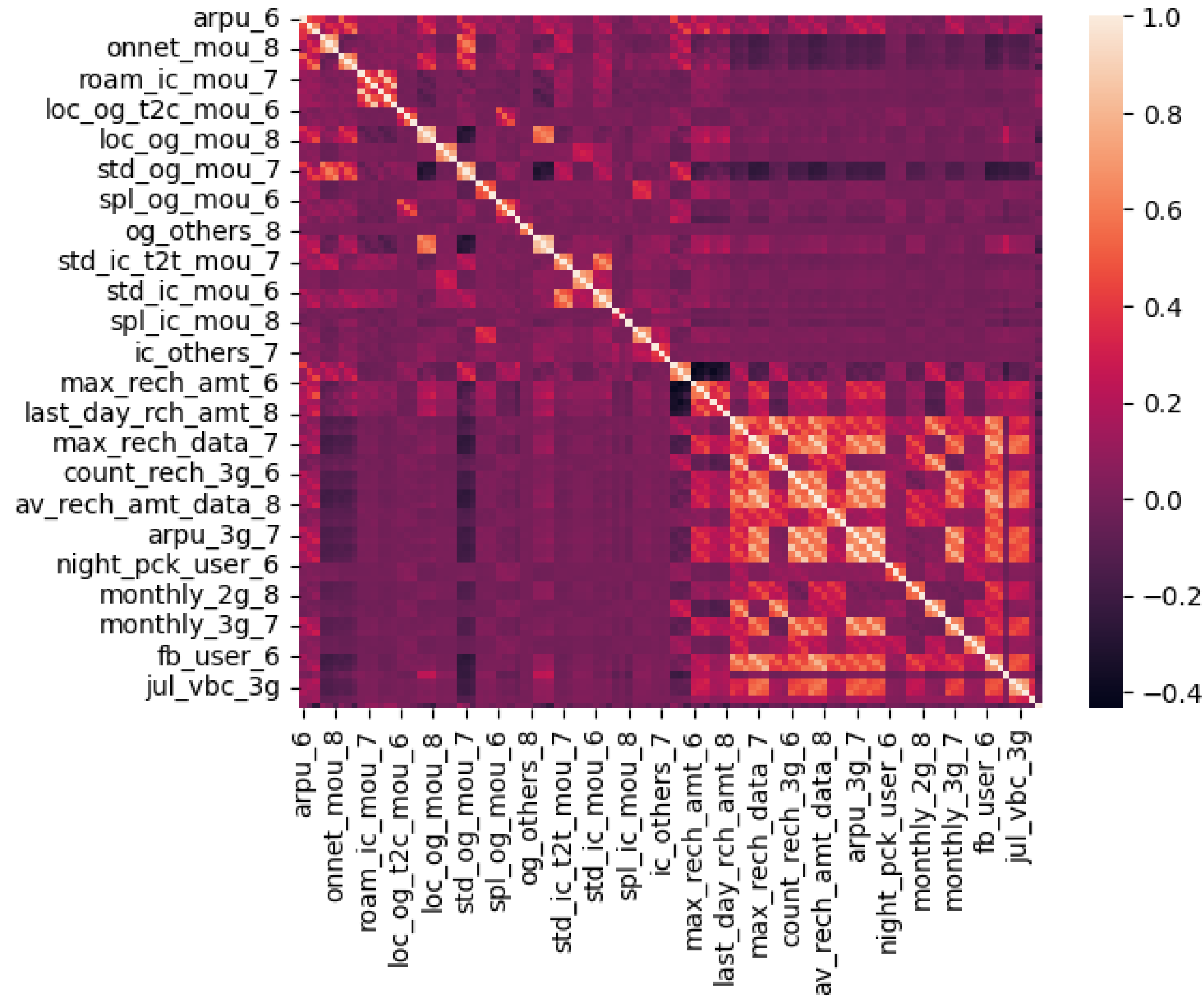
EDA box plot for the Outgoing call usage



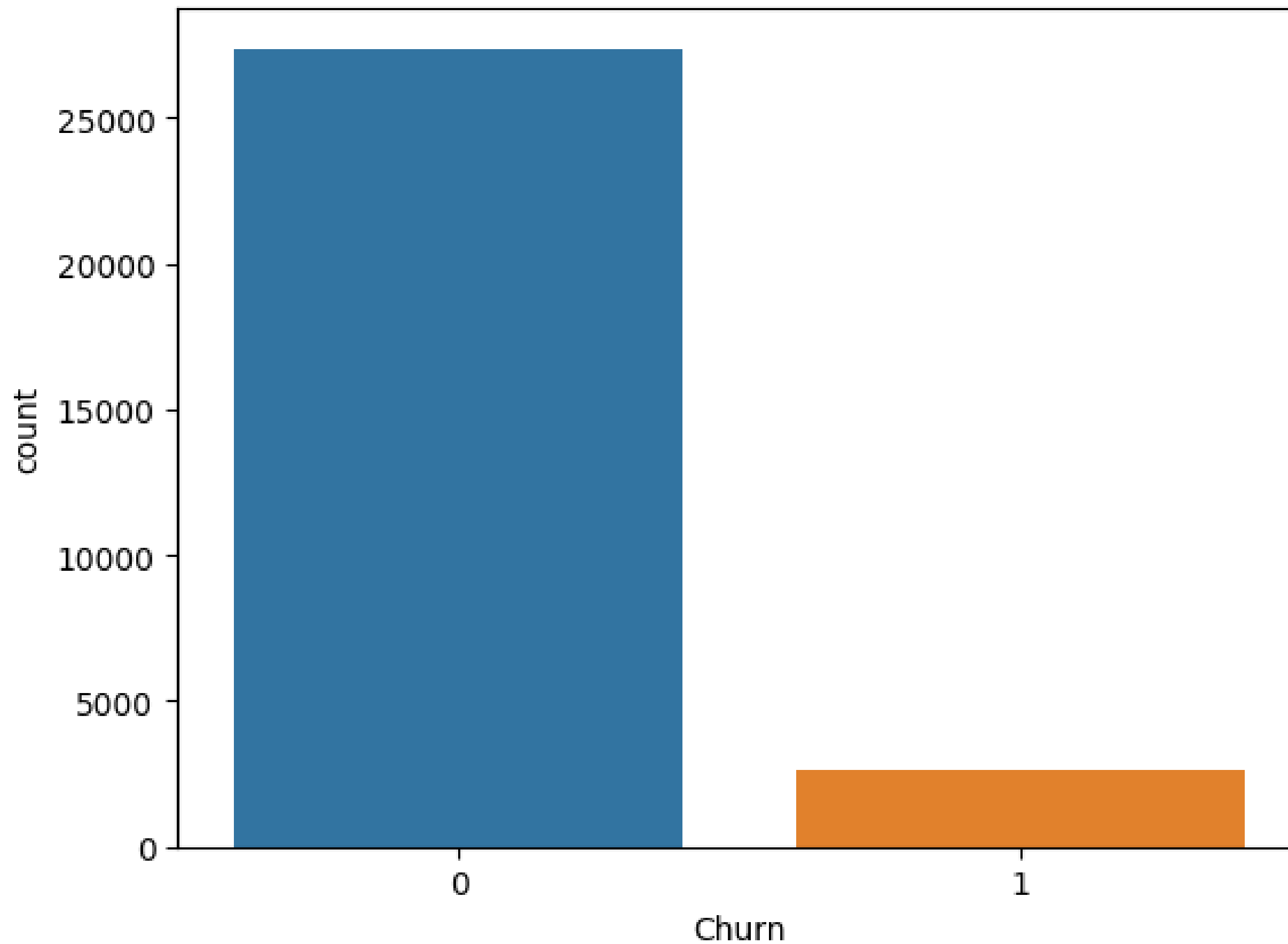
EDA box plot for the outliers



EDA plots depicting correlation (Heat Map) of all selected columns.

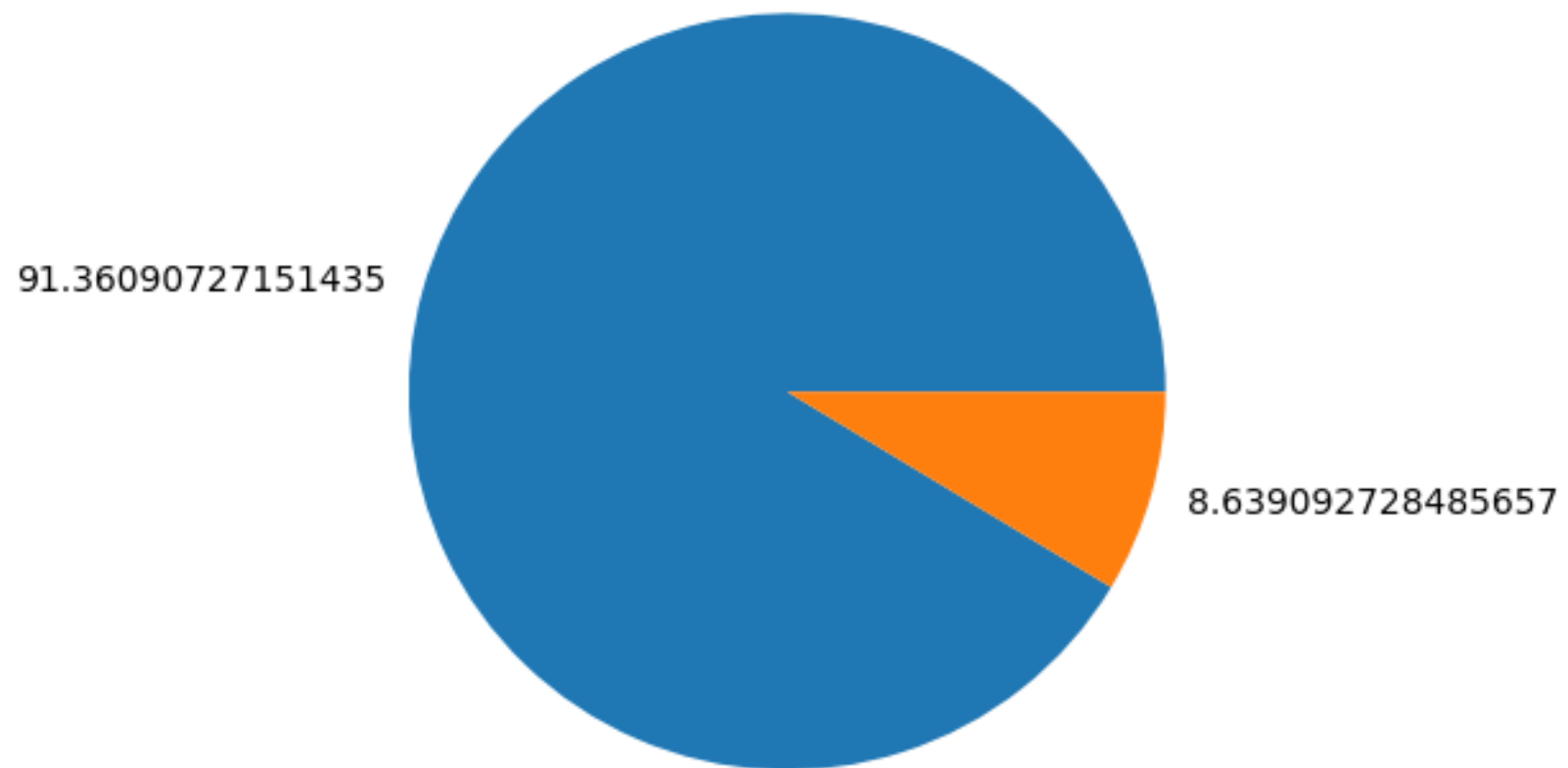


EDA Box plot for Class imbalance.

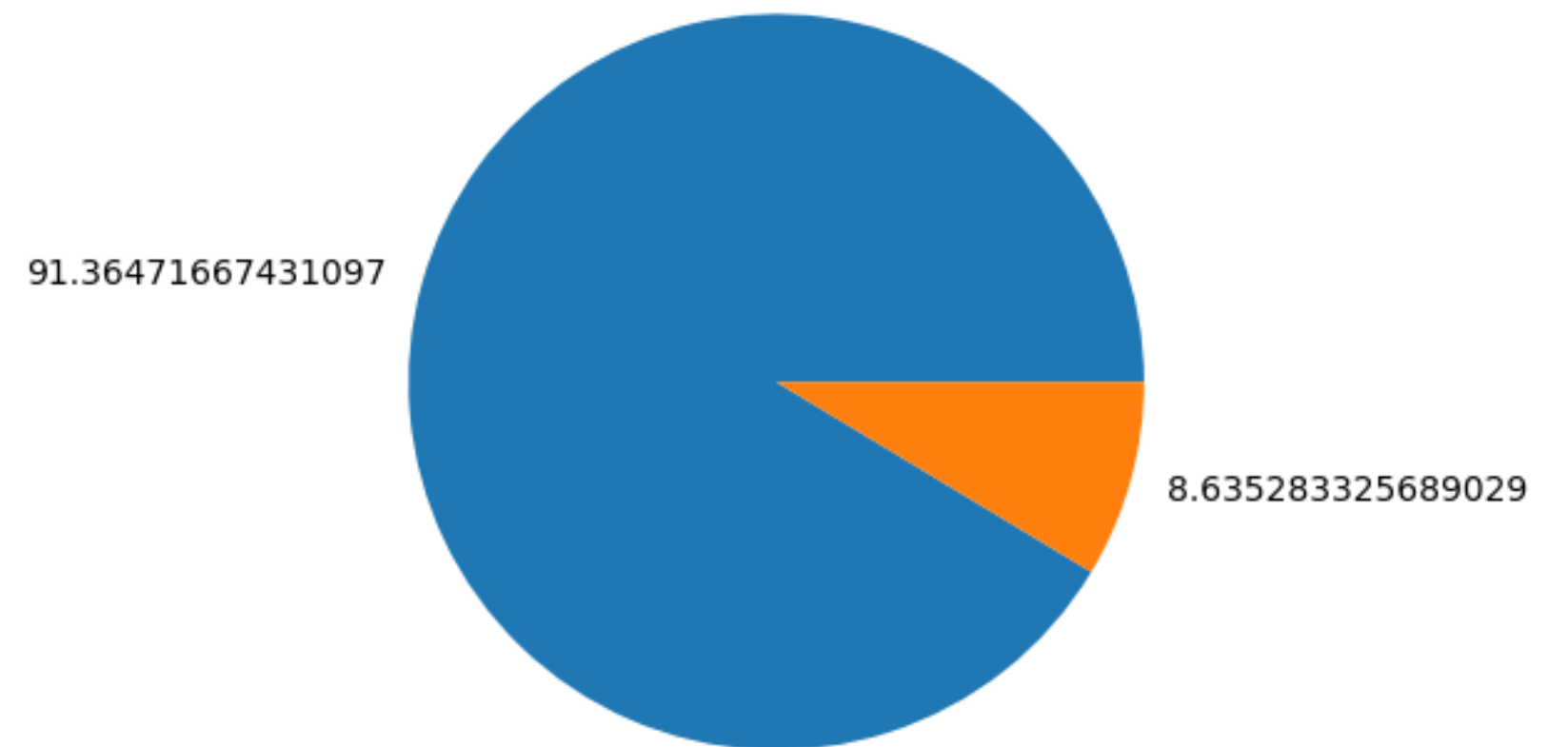


Data Shape

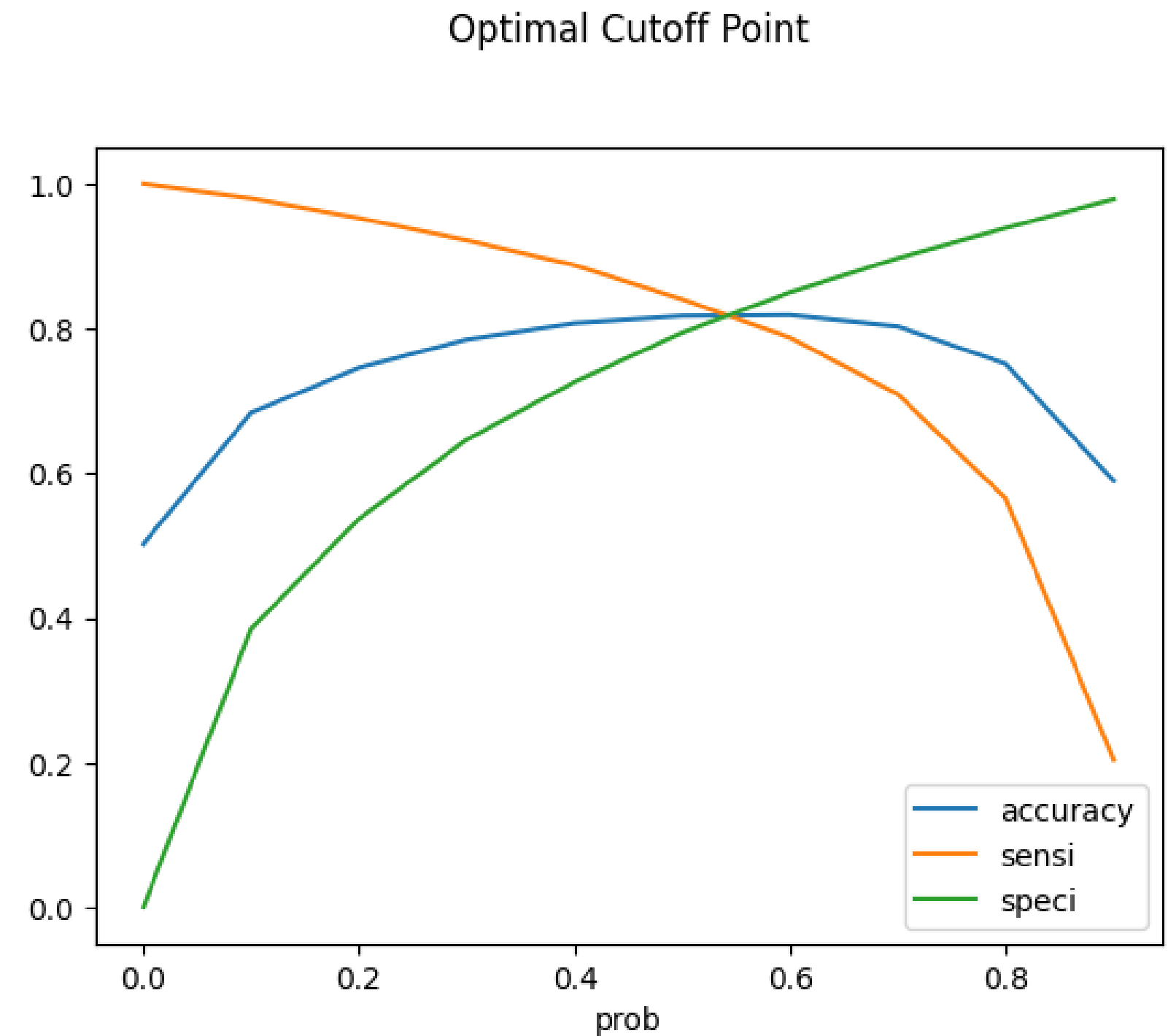
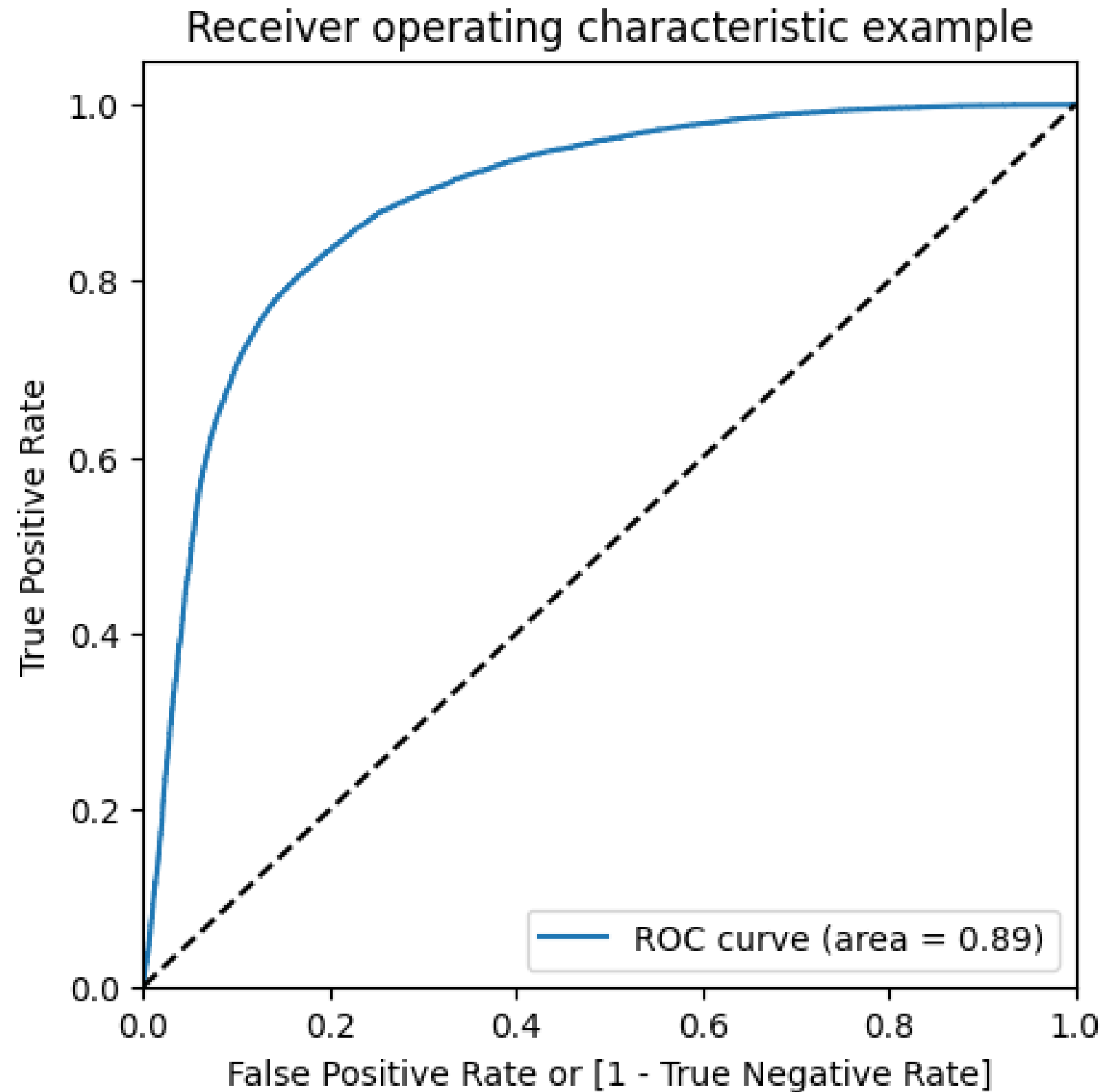
Test Churn Percentage



Train Churn Percentage



Model Building using Logistic Regression



Business Recommendations



- **Identify customers in action phase and offer them more local minutes.** Customers who are using their phones more often are more likely to be interested in offers that give them more minutes to use. By offering these customers more local minutes, the company can keep them engaged and satisfied.
 - **Provide more free incoming calls and reduce outgoing call charges.** Customers are more likely to be happy with their phone service if they can make a lot of free incoming calls. By providing more free incoming calls and reducing outgoing call charges, the company can make its service more attractive to customers.
 - **Reduce roaming charges and offer free incoming calls on roaming.** Roaming charges can be expensive, so offering customers reduced roaming charges or free incoming calls on roaming can be a great way to save them money. This can be a particularly attractive offer for customers who travel frequently.
 - **Provide attractive offers and packages.** The company can offer a variety of attractive offers and packages to customers, such as discounts on monthly plans, free data, or free international calls. By offering these types of offers, the company can attract new customers and keep existing customers happy.
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