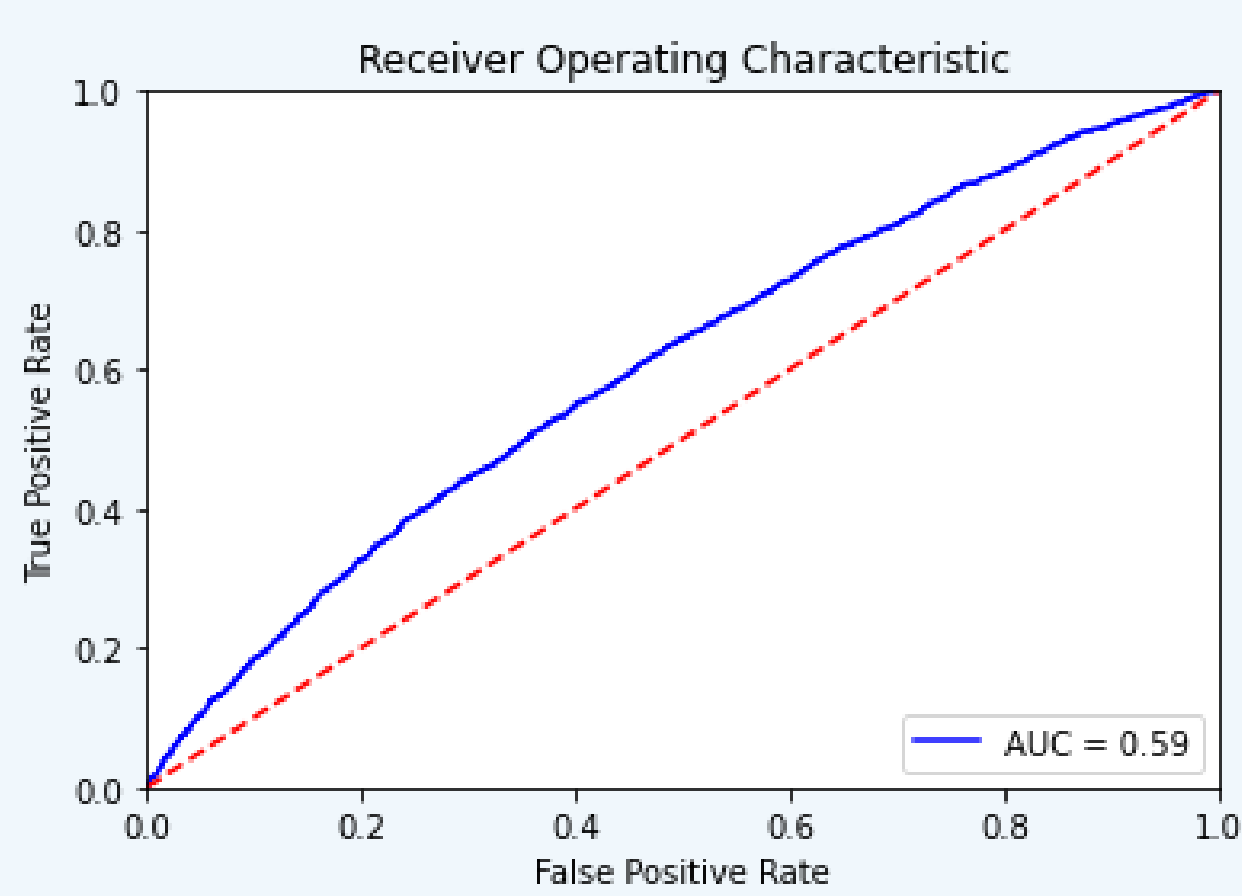


# Univ.AI AI-1 Final Project: Churn Prediction

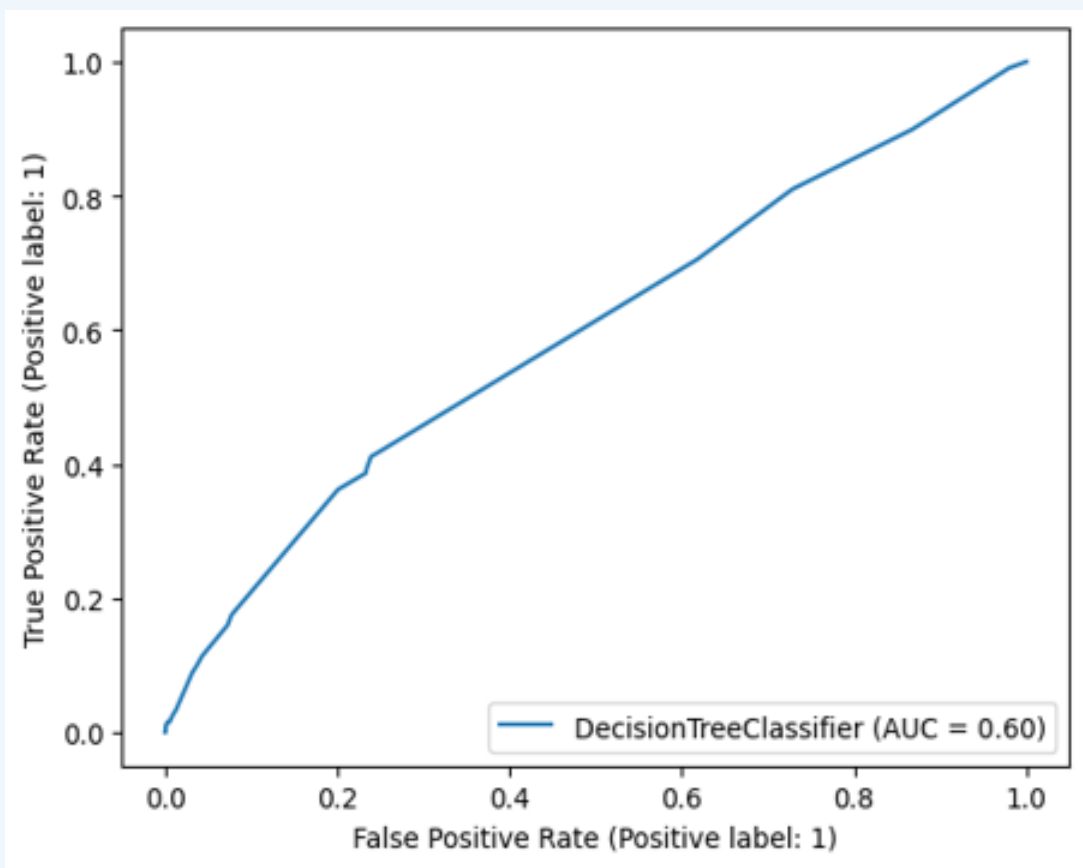
## Background

We are given a real-life dataset of a telecom operator and tasked to predict the propensity of customers to switch provider (churn), and is a classical classification problem. This problem is important, as churning can cause losses to the customer, and predicting prospective churners can allow the operator to provide incentives against churning, thus reducing loss from that customer. Since it is a large dataset, with many variables and Non data, dealing with it is a challenging yet rewarding problem. We will put four classification models and try to check their performance against a validation set drawn from the train data.

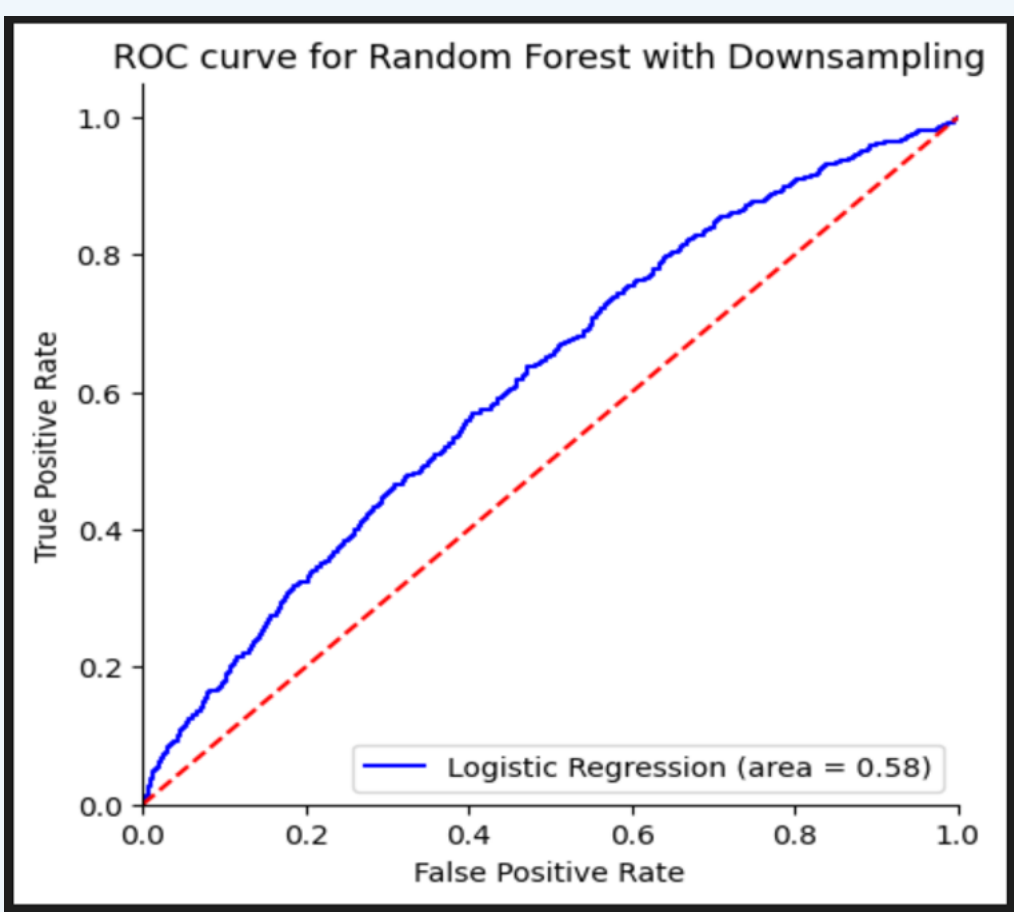
## Logistic Regression with Upsampling



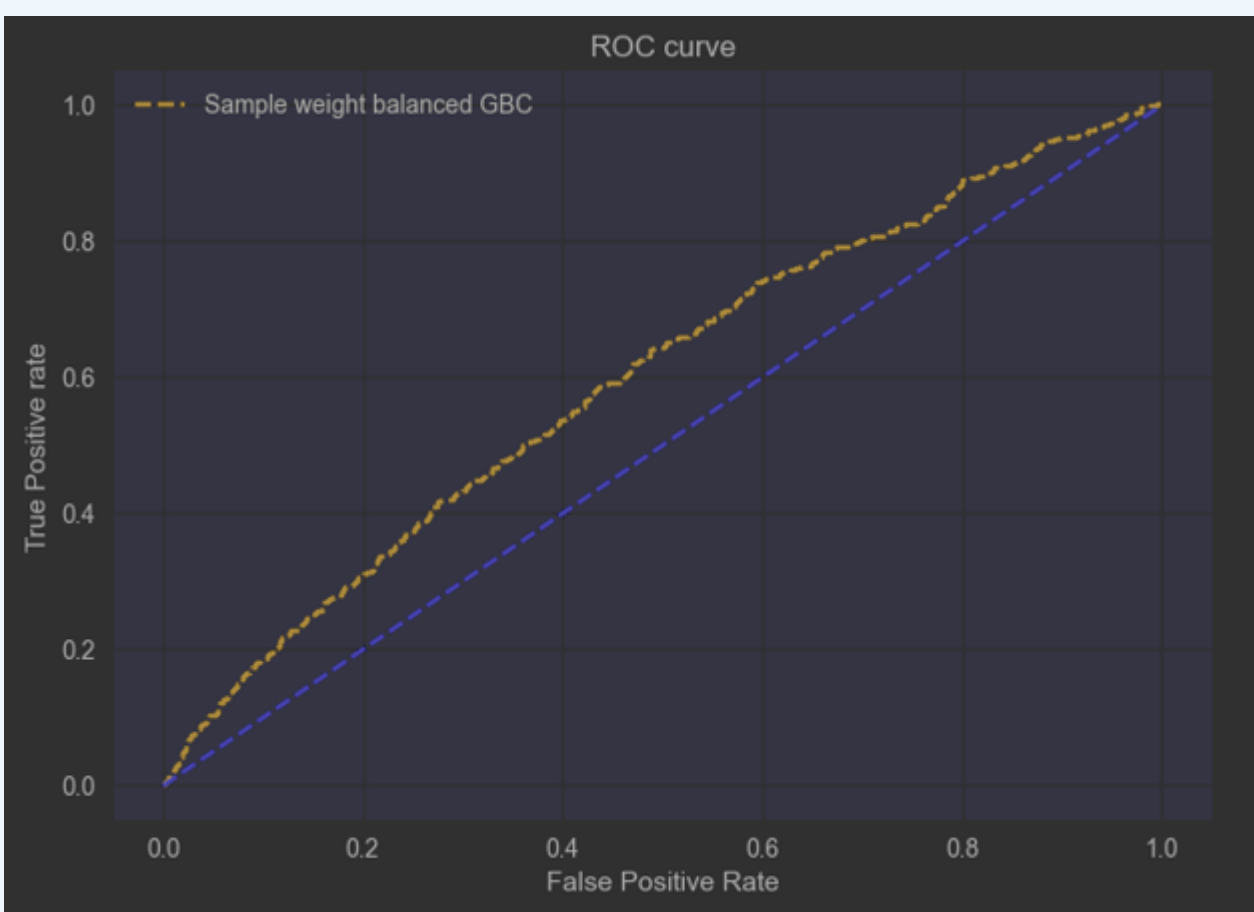
## Decision Trees



## Random Forests with Downsampling



## Weight-balanced Gradient Boosting



## Results

Table 1: Model with ROC AUC Score

Model Used	ROC-AUC Score
Logistic Regression	0.59
Decision Trees	0.60
Random Forest	0.58
Gradient Boosting	0.58
2009 SOTA	0.76