

Metrics:

I use F-beta as my main metrics(beta = 0.7) as I want to lower the FN(true customer but predicted as not going to subscribe).

Imbalance handling:

Oversampling: ratio: 7:1

Models:

Logistic regression(feature engineering)

F-beta: 0.8668

ROC: 0.8708

5-NN:

F-beta: 0.8427

ROC: 0.5558

Random Forest:

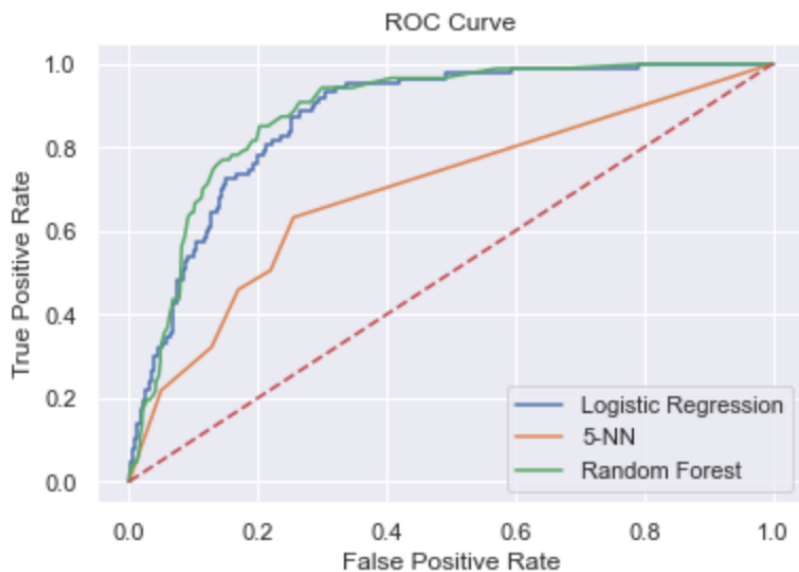
F-beta: 0.8820

ROC: 0.8837

RF performs the best on both F-beta score and ROC score, so I will tune hyperparameters and threshold for Random. I will also try xgboost & naive bayes to select the best model.

Question:

when I choose F-beta as my priority metric(hard prediction), can I also compare ROC AUC as a secondary metric(soft prediction)?



(ROC curve comparison)