Telecome _Churn_case study

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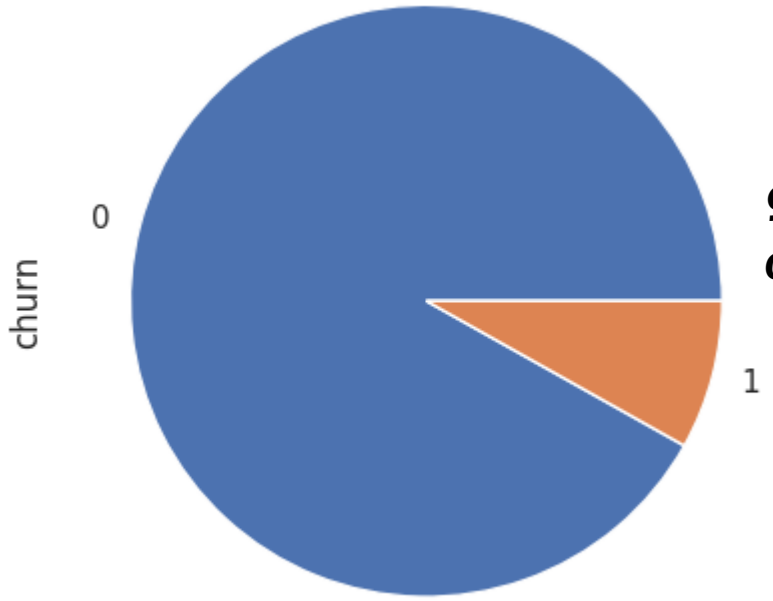
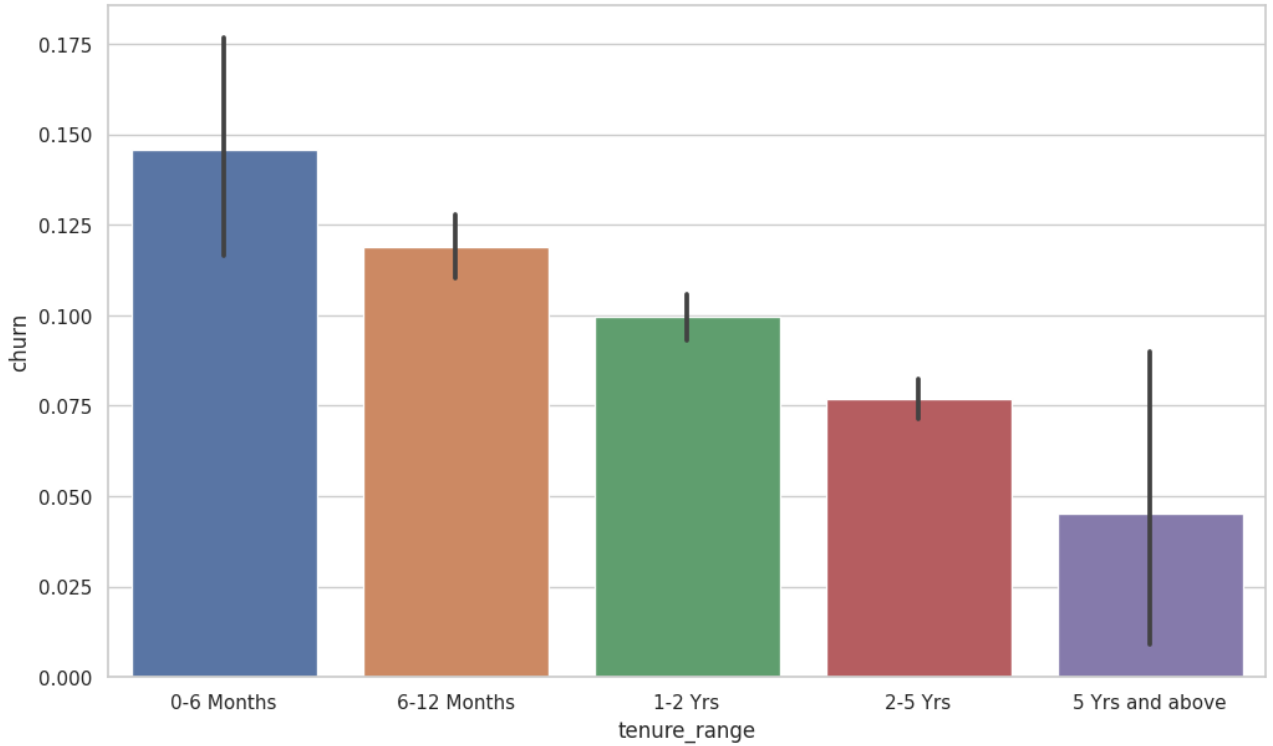
Percentage of Churn and non churn

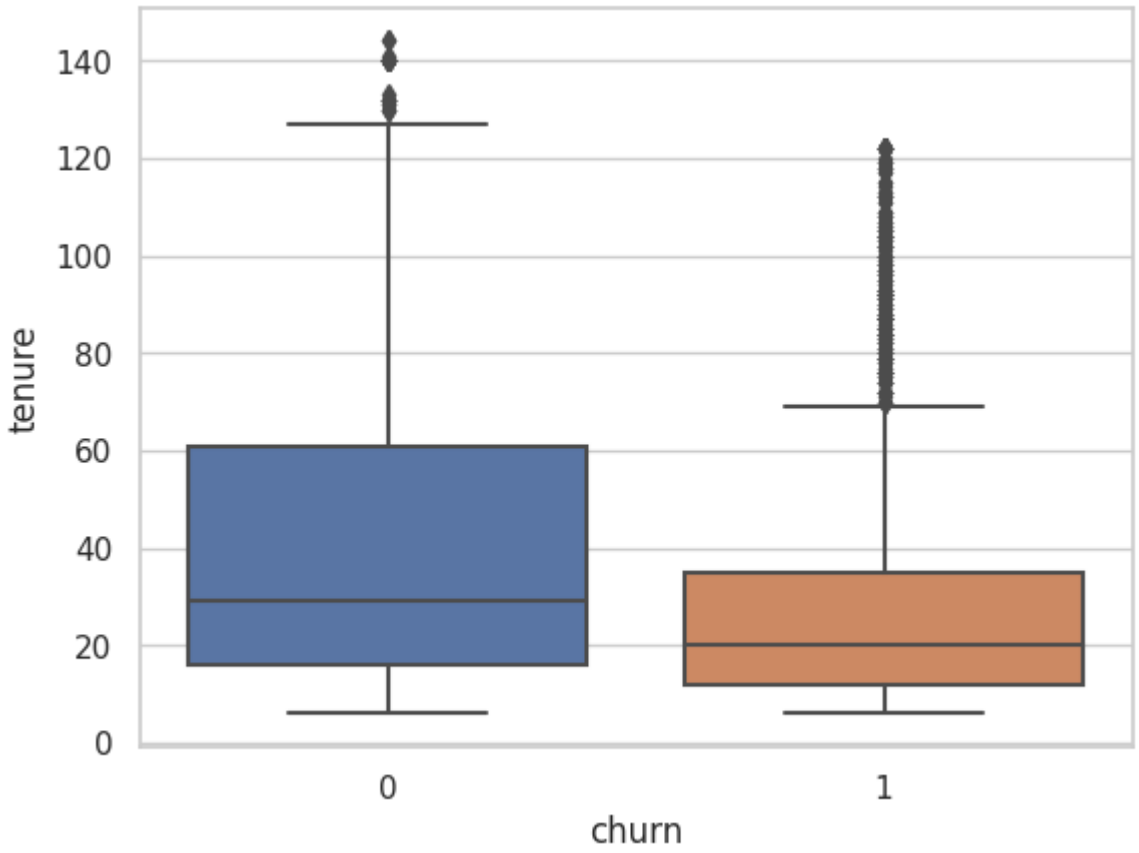


91% of the customers do not churn, there is a possibility of class imbalance

Tenure range Vs Churn

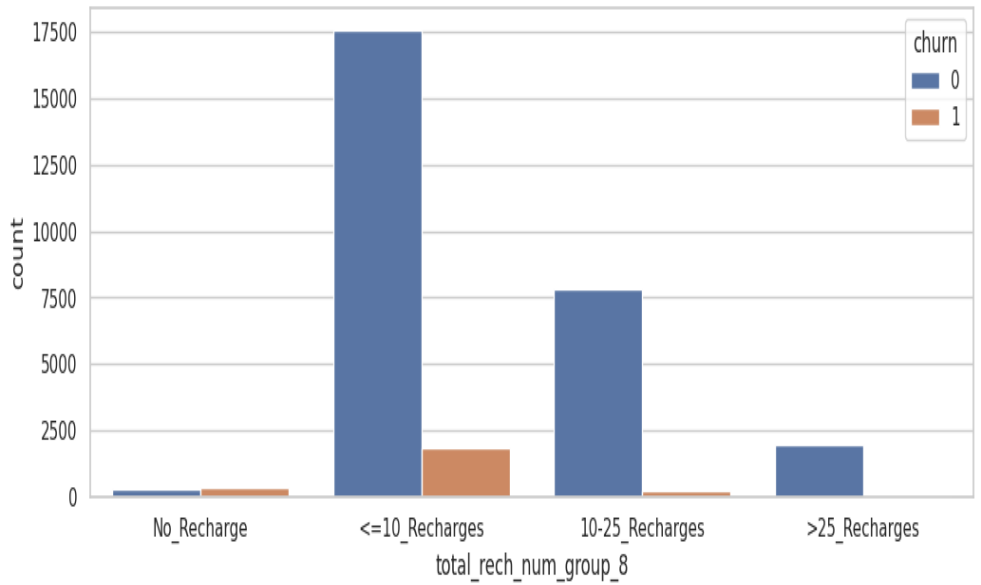


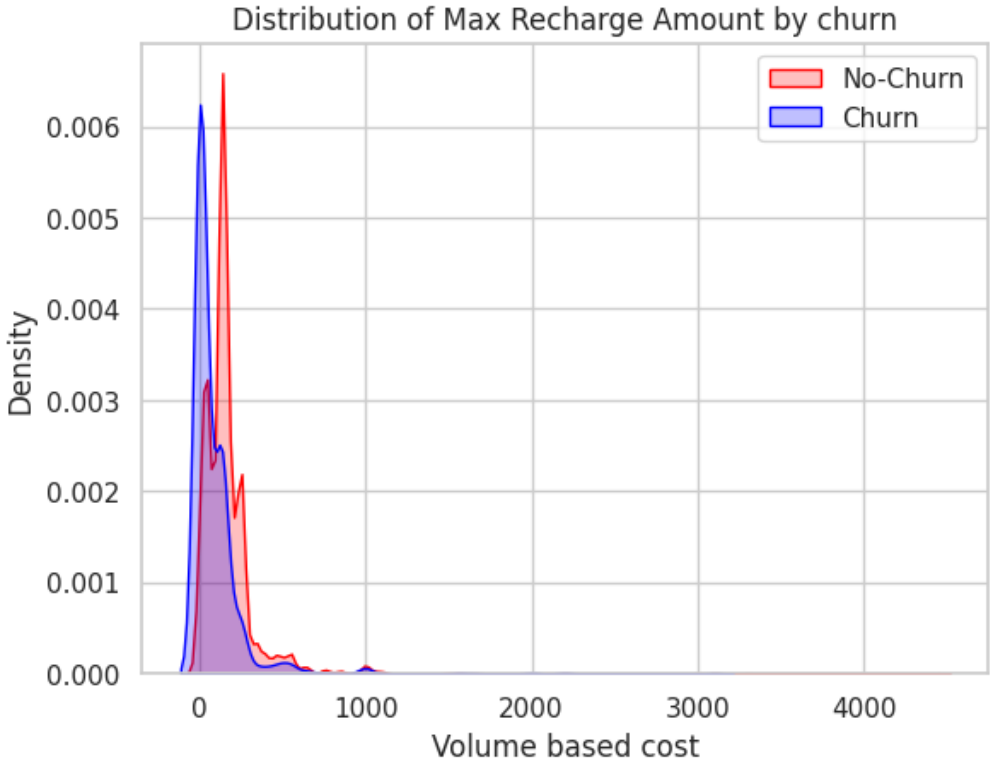
The maximum churn rate happens within 0-6 month, but it gradually decreases as the customer retains in the network.



From this above plot , its clear tenured customers do no churn and they keep availing telecom services

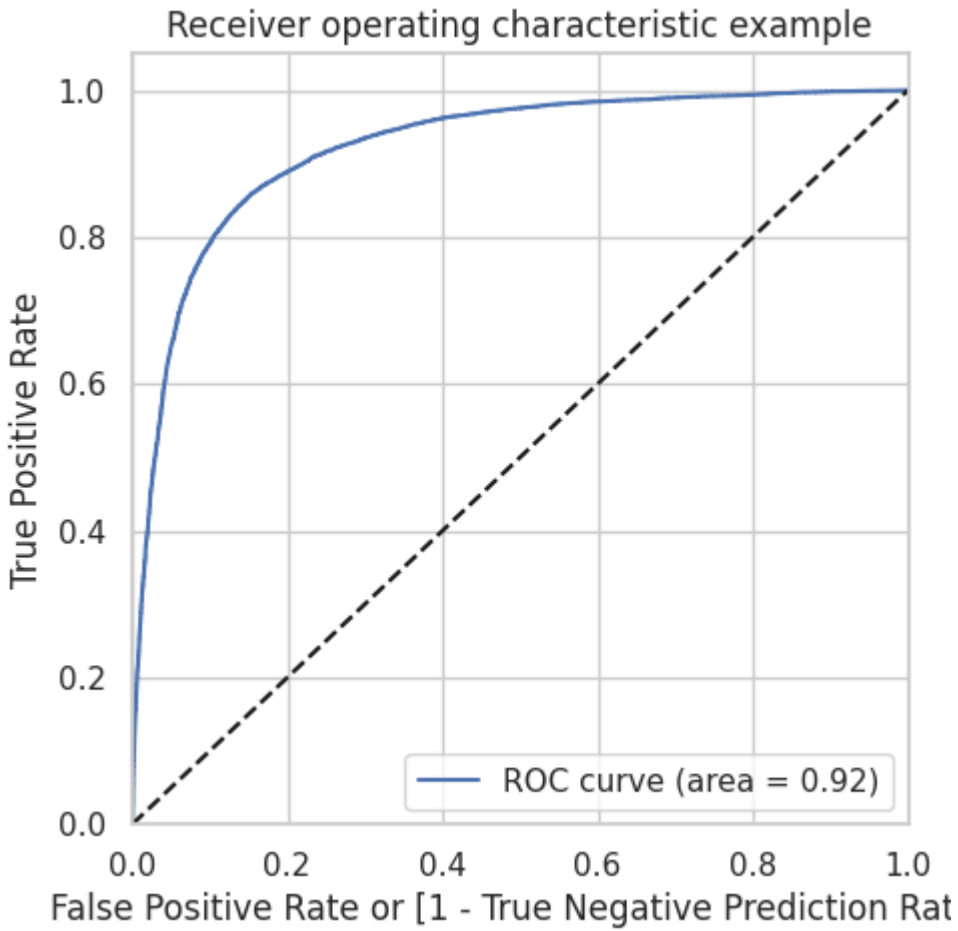
Distribution of total_rech_data 8 variable



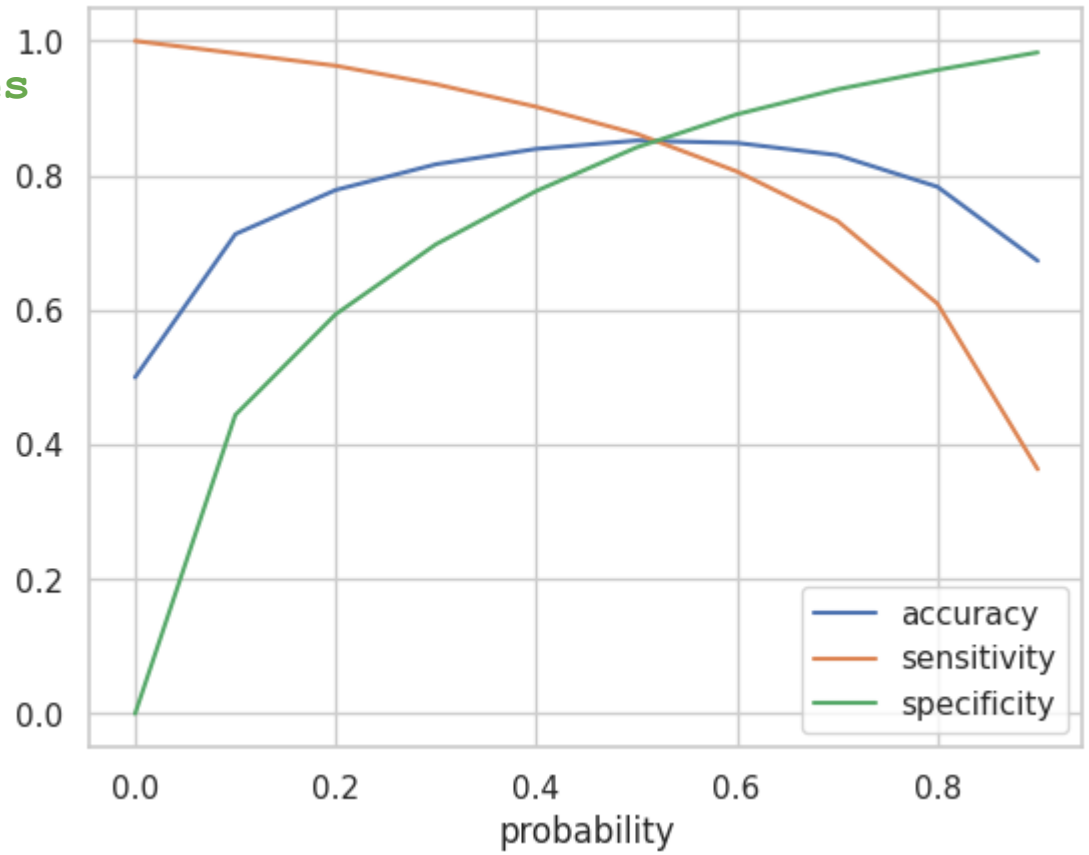


As the number of recharge rate increases, the churn rate decreases clearly

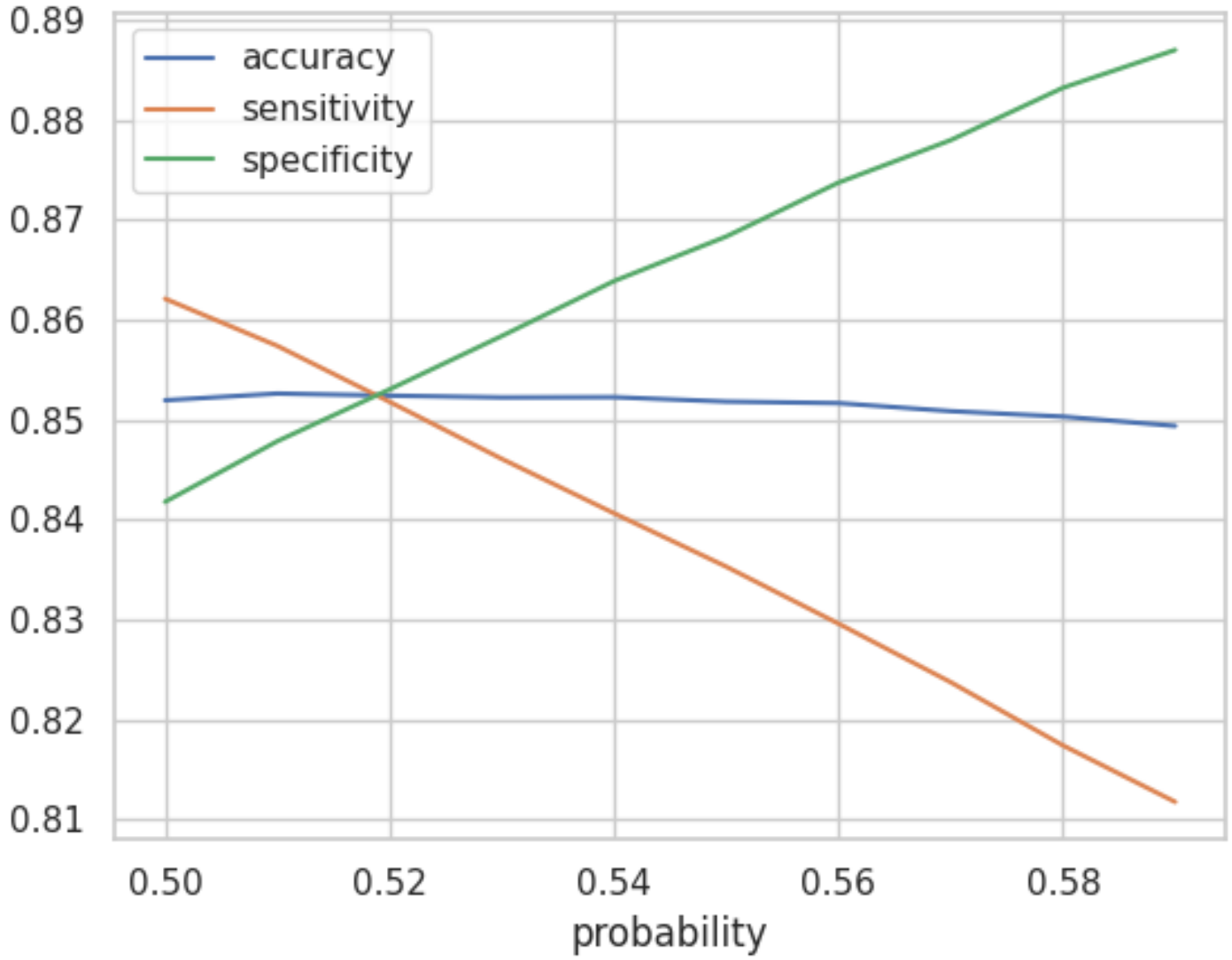
ROC Curve


Receiver operating characteristic example
True Positive Rate
False Positive Rate or [1 - True Negative Prediction Rat
ROC curve (area = 0.92)
0.0
0.2
0.4
0.6
0.8
1.0

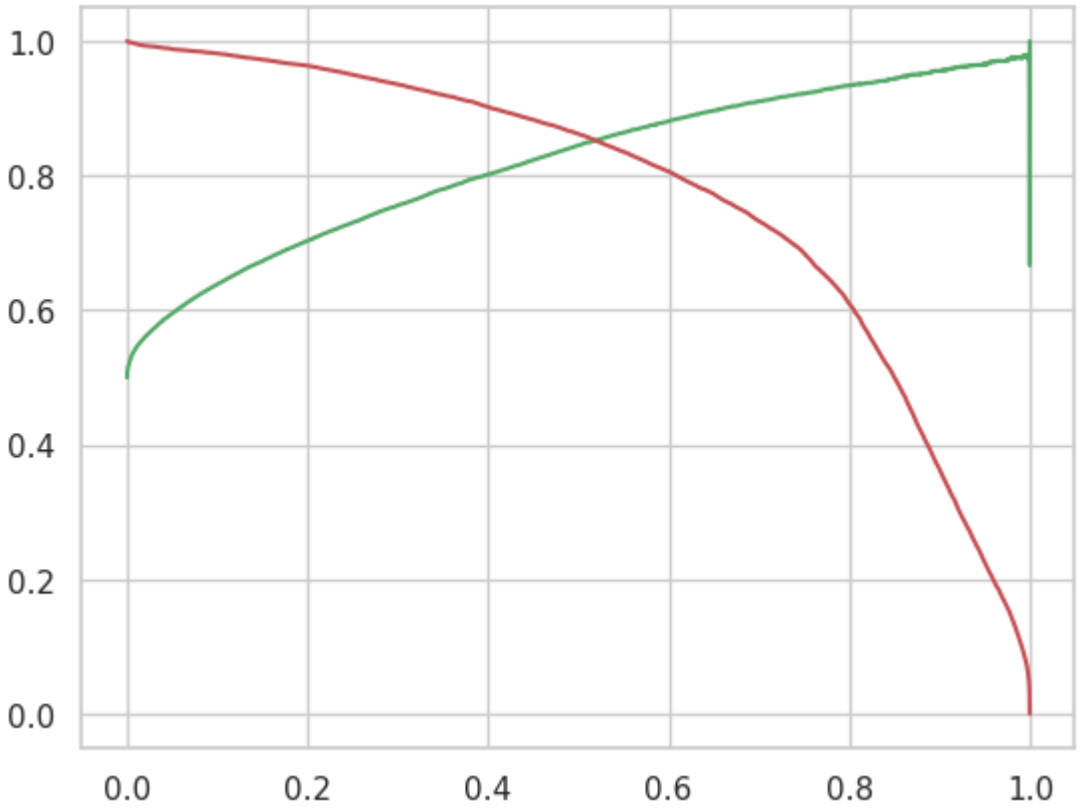
plotting accuracy sensitivity and specificity for various probabilities



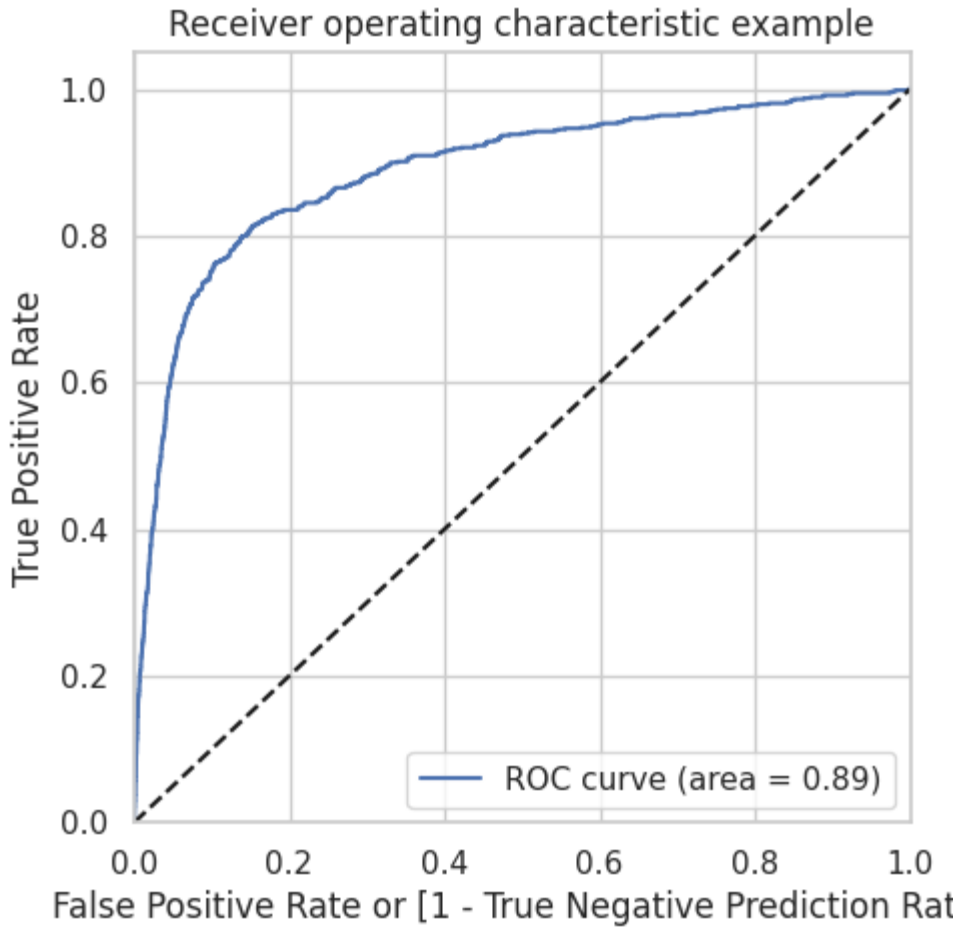
the optimal cutoff point in the probability to define the predicted churn variabe converges at 0.54



Precision and recall trade off



ROC curve for Tet dataset



The AUC score for train dataset is 0.90 and the test dataset is 0.87.
This model can be considered as a good model.