

## PRECISION

It is the ratio of correctly predicted +ve observation to total predicted positive observation.

$$\text{PRECISION} = \frac{TP}{TP + FP}$$

## RECALL

It is the ratio of correctly predicted observation to the all observation in the same class.

$$\text{RECALL} = \frac{TP}{TP + FN}$$

F1 SCORE It is the Weighted Average on Precision & Recall.

$$\text{F1 SCORE} = 2 * (\text{RECALL} * \text{PRECISION}) / (\text{RECALL} + \text{PRECISION})$$

## ROC CURVE



If AOC closes to 1  
: Good Model  
If AOC closes to 0  
: Poor Model.  
If AOC closes to 0.5  $\rightarrow$  no class separation

True Positive Rate / Recall / Sensitivity

$$= \frac{TP}{TP + FN}$$

$$\text{Specificity} = \frac{TN}{TN + FP}$$

$$\text{FPR} = 1 - \text{Specificity}$$

$$= \frac{FP}{TN + FP}$$