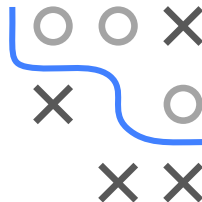


LABELS: ROC METRICS

Example:

		Actual Class y		
		Positive	Negative	
\hat{y} Pred.	Positive	True Positive (TP) = 20	False Positive (FP) = 180	Positive predictive value = $TP / (TP + FP)$ = $20 / (20 + 180)$ = 10%
	Negative	False Negative (FN) = 10	True Negative (TN) = 1820	Negative predictive value = $TN / (FN + TN)$ = $1820 / (10 + 1820)$ ≈ 99.5%
		True Positive Rate = $TP / (TP + FN)$ = $20 / (20 + 10)$ ≈ 67%	True Negative Rate = $TN / (FP + TN)$ = $1820 / (180 + 1820)$ = 91%	

https://en.wikipedia.org/wiki/Receiver_operating_characteristic



MORE METRICS AND ALTERNATIVE TERMINOLOGY

Unfortunately, for many concepts in ROC, 2-3 different terms exist.

		True condition			
		Condition positive	Condition negative	Prevalence = $\frac{\Sigma \text{Condition positive}}{\Sigma \text{Total population}}$	Accuracy (ACC) = $\frac{\Sigma \text{True positive} + \Sigma \text{True negative}}{\Sigma \text{Total population}}$
Predicted condition	Predicted condition positive	True positive, Power	False positive, Type I error	Positive predictive value (PPV), Precision = $\frac{\Sigma \text{True positive}}{\Sigma \text{Predicted condition positive}}$	False discovery rate (FDR) = $\frac{\Sigma \text{False positive}}{\Sigma \text{Predicted condition positive}}$
	Predicted condition negative	False negative, Type II error	True negative	False omission rate (FOR) = $\frac{\Sigma \text{False negative}}{\Sigma \text{Predicted condition negative}}$	Negative predictive value (NPV) = $\frac{\Sigma \text{True negative}}{\Sigma \text{Predicted condition negative}}$
		True positive rate (TPR), Recall, Sensitivity, probability of detection = $\frac{\Sigma \text{True positive}}{\Sigma \text{Condition positive}}$	False positive rate (FPR), Fall-out, probability of false alarm = $\frac{\Sigma \text{False positive}}{\Sigma \text{Condition negative}}$	Positive likelihood ratio (LR+) = $\frac{\text{TPR}}{\text{FPR}}$	Diagnostic odds ratio (DOR) = $\frac{\text{LR+}}{\text{LR-}}$ $F_1 \text{ score} = \frac{1}{\frac{1}{\text{Recall}} + \frac{1}{\text{Precision}}}$
		False negative rate (FNR), Miss rate = $\frac{\Sigma \text{False negative}}{\Sigma \text{Condition positive}}$	Specificity (SPC), Selectivity, True negative rate (TNR) = $\frac{\Sigma \text{True negative}}{\Sigma \text{Condition negative}}$	Negative likelihood ratio (LR-) = $\frac{\text{FNR}}{\text{TNR}}$	

► Clickable version/picture source

► Interactive diagram