Metrics

ML Instruction Team, Fall 2022

CE Department
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Confusion Matrix

		Predicted		
		Negative (0)	Positive (1)	
Actual	Negative (0)	**True Negative** **TN**	**False Positive** **FP** (Type I error)	**Specificity** $= \dfrac{TN}{TN + FP}$
	Positive (1)	**False Negative** **FN** (Type II error)	**True Positive** **TP**	**Recall**, **Sensitivity**, True positive rate (**TPR**) $= \dfrac{TP}{TP + FN}$
		Accuracy $= \dfrac{TP + TN}{TP + TN + FP + FN}$	**Precision**, Positive predictive value (**PPV**) $= \dfrac{TP}{TP + FP}$	**F1-score** $= 2 \times \dfrac{Recall \times Precision}{Recall + Precision}$

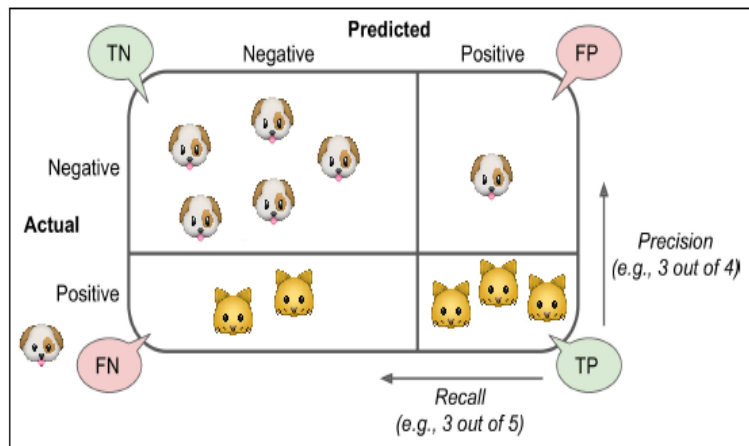Figure: Confusion Matrix, Source

Precision Recall Trade-off

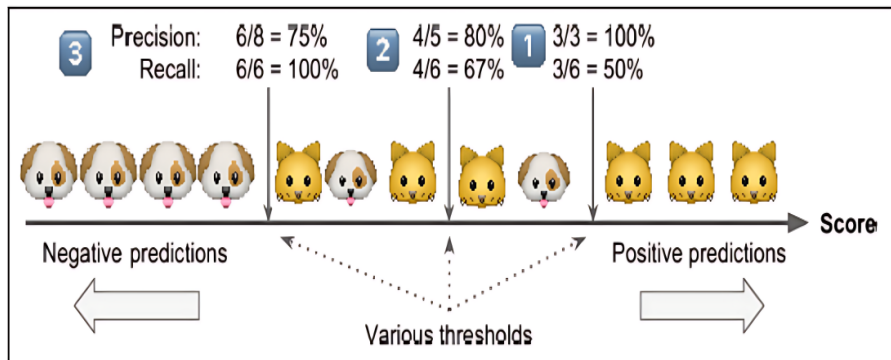Figure: Precision and Recall, Source

Confusion Matrix

Figure: Precision Recall Trade-off, Source

Precision Recall Trade-off
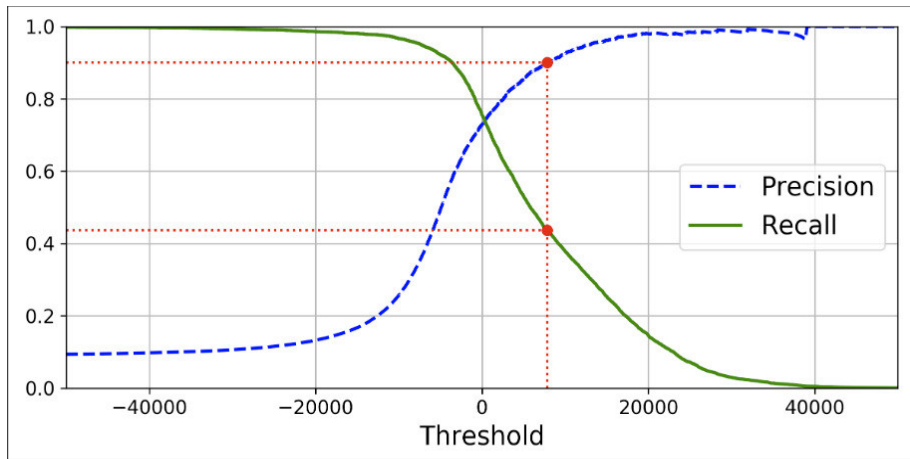

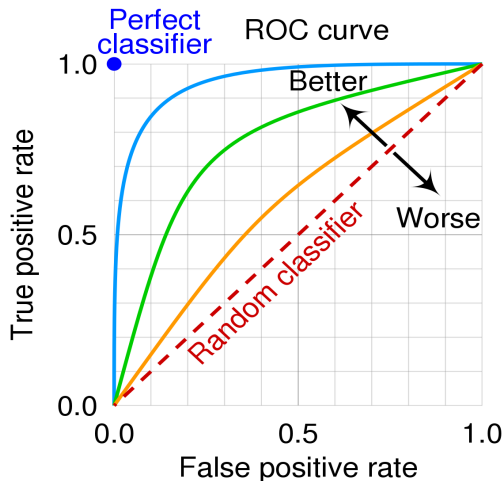Figure: Precision Recall for Various Thresholds, Source

Precision Recall Trade-off

Figure: ROC Curve, Source

Precision Recall Trade-off
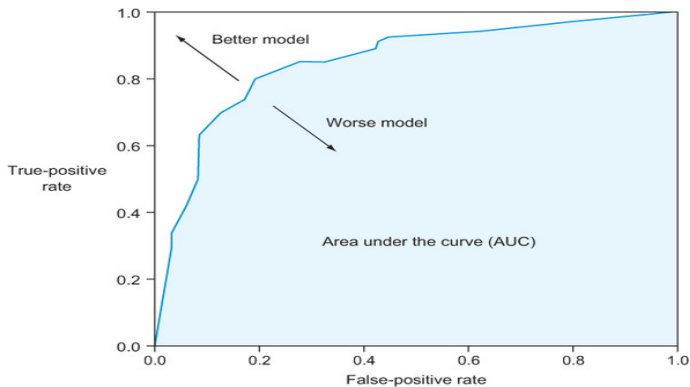

Figure: AUC of ROC Curve, Source

Thank You!

Any Question?