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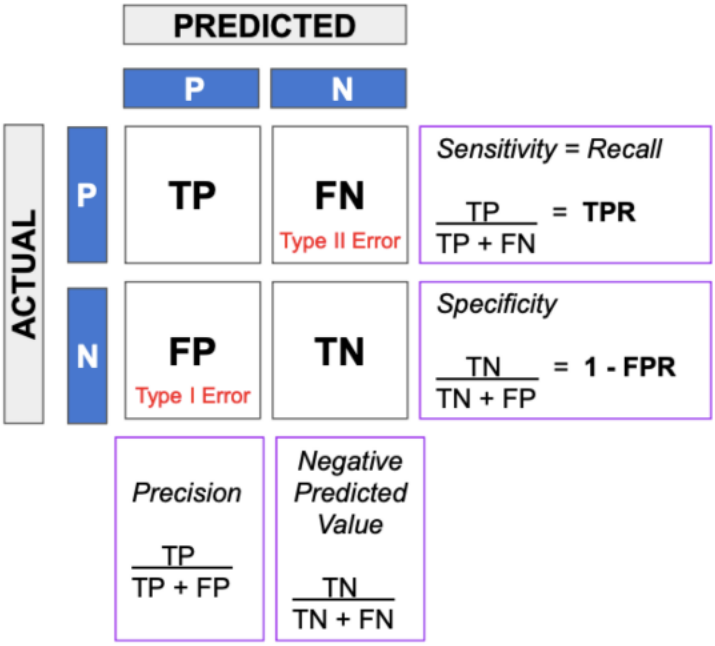
Implications Precision-Recall



You can see:

i. FP ≈ 0 :

$(\hat{y} = 1 \Rightarrow y = 1)$
$(y = 0 \Rightarrow \hat{y} = 0)$

ii. FN ≈ 0 :

$(\hat{y} = 0 \Rightarrow y = 0)$
$(y = 1 \Rightarrow \hat{y} = 1)$

Implications

If $Recall \approx 1 \Rightarrow \dfrac{TP}{TP+FN} \approx 1 \Rightarrow FN \approx 0 \Rightarrow \boxed{(\hat{y}=1 \Rightarrow y=1) \wedge (y=0 \Rightarrow \hat{y}=0)}$

If $Precision \approx 1 \Rightarrow \dfrac{TP}{TP+FP} \approx 1 \Rightarrow FP \approx 0 \Rightarrow \boxed{(\hat{y}=0 \Rightarrow y=0) \wedge (y=1 \Rightarrow \hat{y}=1)}$

If $F1 \approx 1 \Rightarrow [(Recall \approx 1) \wedge (Precision \approx 1)] \Rightarrow \boxed{(\hat{y}=1 \Leftrightarrow y=1) \wedge (y=0 \Leftrightarrow \hat{y}=0)}$
