

A decorative graphic on the left side of the slide, consisting of a network of blue lines and circles resembling a circuit board or neural network connections.

CONFUSION MATRIX: METRICS

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CONFUSION MATRIX : TP,TN, FP, FN

		Actual Values	
		Positive (1)	Negative (0)
Predicted Values	Positive (1)	TP	FP
	Negative (0)	FN	TN

		Actual	
		Pregnant	Not
Predicted	Pregnant	45 TP	55 FP
	Not	5 FN	395 TN

Type I

Type II

1. Accuracy (all **correct** / all) = $TP + TN / TP + TN + FP + FN$

$(45 + 395) / 500 = 440 / 500 = 0.88$ or **88% Accuracy**

2. Misclassification (all **incorrect** / all) = $FP + FN / TP + TN + FP + FN$

$(55 + 5) / 500 = 60 / 500 = 0.12$ or **12% Misclassification**

You can also just do $1 - \text{Accuracy}$, so: $1 - 0.88 = 0.12$ or **12% Misclassification**

3. Precision (**true** positives / **predicted** positives) = $TP / TP + FP$

$45 / (45 + 55) = 45 / 100 = 0.45$ or **45% Precision**

4. Sensitivity aka Recall (**true** positives / all **actual** positives) = $TP / TP + FN$

$45 / (45 + 5) = 45 / 50 = 0.90$ or **90% Sensitivity**

5. **F1 score** - $2 * (\text{Precision} * \text{Recall}) / (\text{Precision} + \text{Recall})$ - Please try the maths to find the answer

• Please check the same for Multiclass confusion matrix too