

→ ground truth

นางจุฬาลักษณ์ นาคพินิจ

643020515-5

+

Actual	Predict
2	2
0	0
0	0
0	0
2	2
2	2
2	2
2	2
P	P
P	P
P	P
P	P

A \ P	C	-C	
C	4 <sub>PP</sub>	2 <sub>PN</sub>	6
-C	2 <sub>NP</sub>	2 <sub>NN</sub>	4
	6	4	10

## Confusion Matrix

$$\text{Accuracy} = \frac{TP + TN}{All} = \frac{4 + 2}{10} = \frac{6}{10}$$

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		+	-
A \ P	C	-C	
+	C	4 <sub>PP</sub>	2 <sub>PV</sub> 6
-	-C	2 <sub>NP</sub>	2 <sub>MM</sub> 4
		6	4 10

## Confusion Matrix

$$\text{Accuracy} = \frac{TP + TN}{All} = \frac{4 + 2}{10} = \frac{6}{10}$$

$$\text{Error Rate} = \frac{FP + FN}{All} = \frac{2 + 2}{10} = \frac{4}{10}$$

Imbalance problem

All

$$\frac{1}{10} = \frac{1}{10}$$

- Sensitivity =  $\frac{TP}{P} = \frac{4}{6} = 0.667$  ✖

- Specificity =  $\frac{TN}{N} = \frac{2}{4} = 0.5$  ✖



~~Precision~~

$$\frac{TP}{TP+FP}$$



$$\text{Precision} = \frac{4}{4+2} = \frac{4}{6} = 0.667 \quad \text{A}$$

$$\text{Recall} = \frac{TP}{TP+FN} = \frac{4}{4+2} = 0.667 \quad \text{A}$$