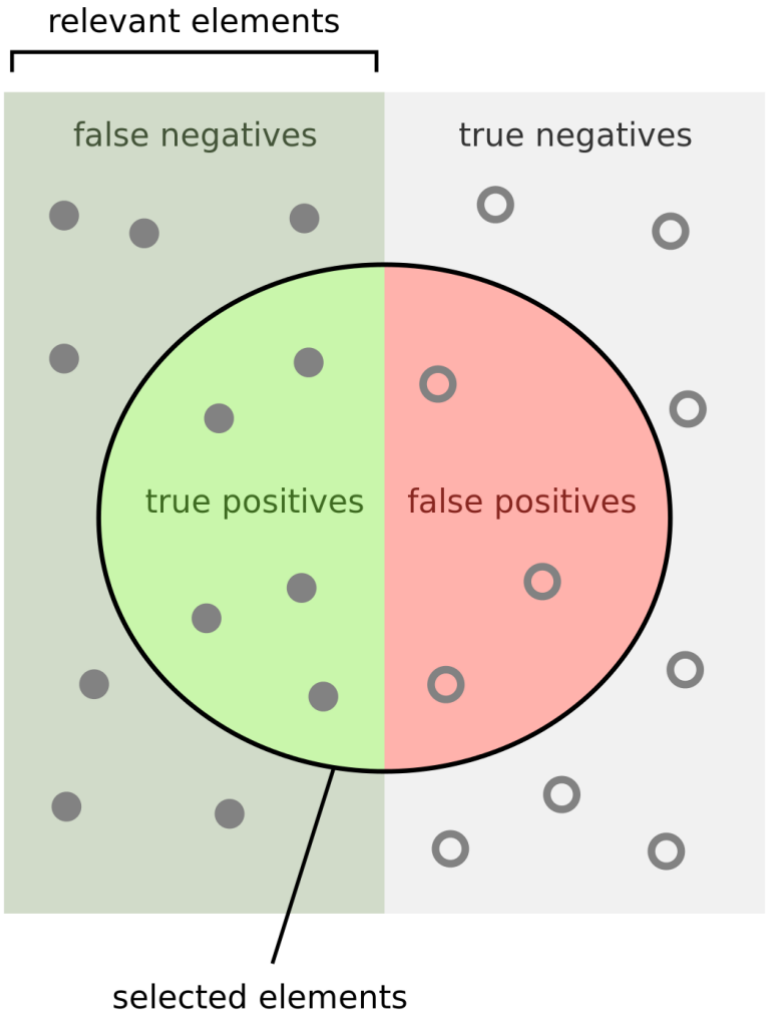
Classification metrics



$$Accuracy = \frac{TP + TN}{P + N} = \frac{TP + TN}{TP + TN + FP + FN}$$

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

how many selected items are relevant?

$$Recall = \frac{TP}{P} = \frac{TP}{TP + FN} =$$

how many relevant items are selected?

Classification metrics

Confusion matrix

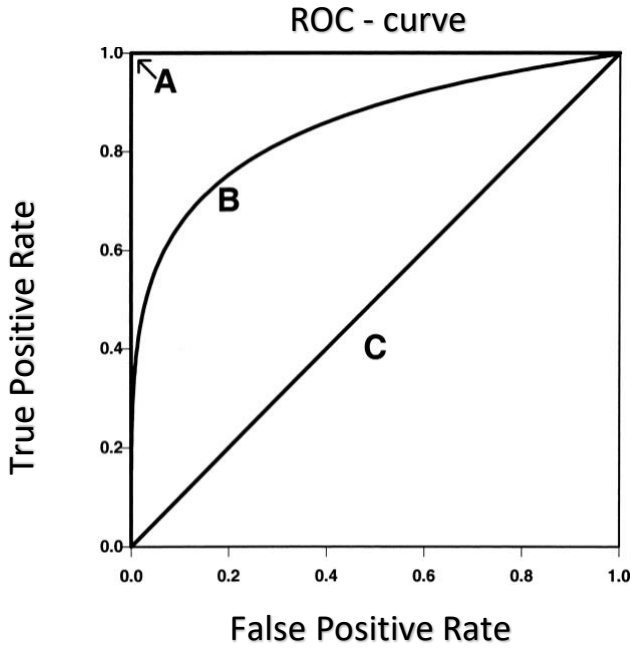
		True condition	
		1	0
Predicted condition	1	TP	FP (type I error)
	0	FN (type II error)	TN

$$F_1 score = 2 * \frac{Precision * Recall}{Precision + Recall}$$

$$F_\beta score = (1 + \beta^2) * \frac{Precision * Recall}{\beta^2 * Precision + Recall}$$

$$True\ Positive\ Rate\ (TPR) = \frac{TP}{P} = \frac{TP}{TP + FN}$$

$$False\ Positive\ Rate\ (FPR) = \frac{FP}{N} = \frac{FP}{FP + TN}$$



$$LogLoss = -\frac{1}{N}\sum_{i=1}^{n}[y_i * log(\hat{y}_i) + (1 - y_i) * log(1 - \hat{y}_i)]$$