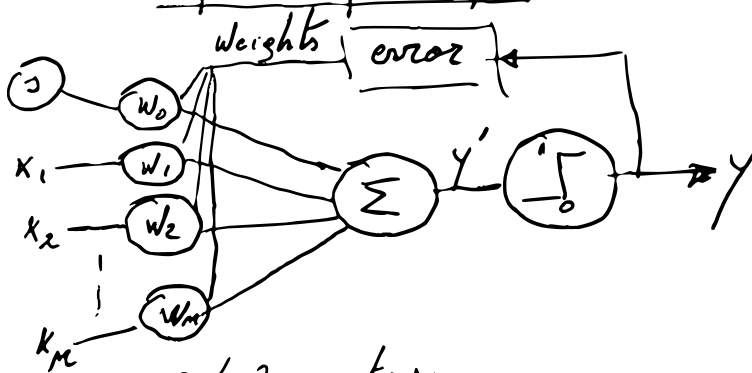


PERCEPTRON



Input parameters.

$$\begin{bmatrix} x_1 \\ \vdots \\ x_M \end{bmatrix} \cdot [w_1 \dots w_M] + w_0 = y' \quad \begin{array}{l} \text{if } y' < 0 \text{ then } y = 0 \\ \text{if } y' \geq 0 \text{ then } y = 1 \end{array}$$

class label.

$$E = \eta \cdot (y - \hat{y})$$

learning rate

$$\begin{aligned} w_0 &= w_0 + E \cdot 1 \\ w_1 &= w_1 + E \cdot x_1 \\ w_M &= w_M + E \cdot x_M \end{aligned}$$

Weights updates

Do this for each input
+
Do this Π iterations (epoch) \Rightarrow if classes \hat{y} are linear separable $E \rightarrow 0$ (zero)