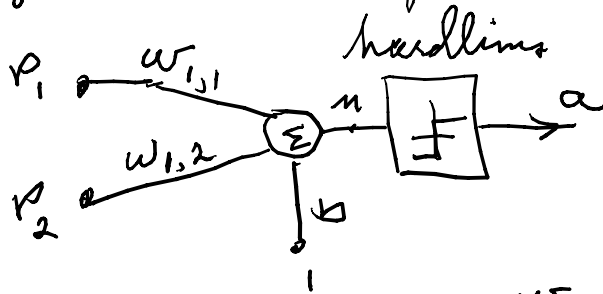


web page for demo, on page P-4
of text

EE 434
02/01/06

ee.okstate.edu/mhagan/mnd.html

Perceptron - 1 layer; p. 3-3



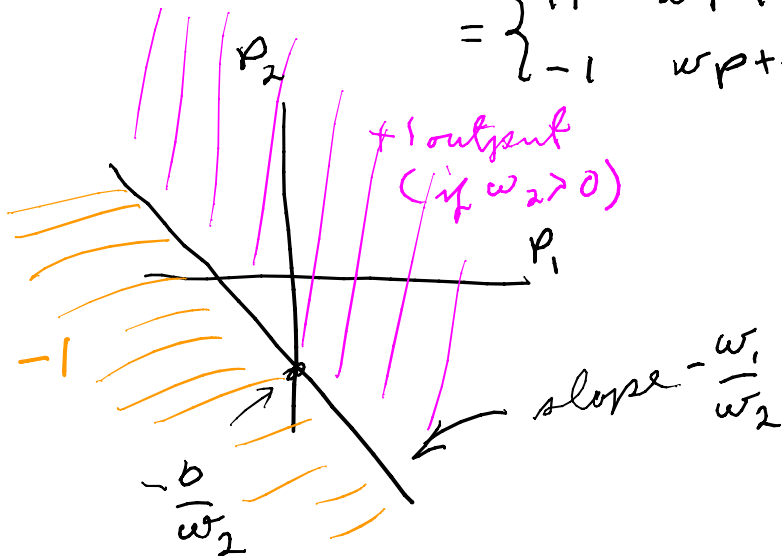
$$W = [w_{1,1}, w_{1,2}]$$

$$p = \begin{bmatrix} p_1 \\ p_2 \end{bmatrix}$$

$$n = W \cdot p + b$$

$$a = \text{hardlims}(W \cdot p + b)$$

$$= \begin{cases} +1 & Wp + b \geq 0 \\ -1 & Wp + b < 0 \end{cases} \quad \left. \begin{array}{l} \text{boundary at} \\ Wp + b = 0 \end{array} \right\}$$

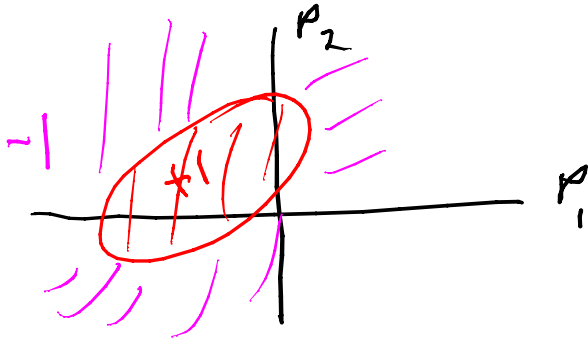


$$W_1 p_1 + W_2 p_2 + b = 0$$

$$p_2 \geq \frac{-b - W_1 p_1}{W_2}$$

$$\geq -\frac{b}{W_2} - \frac{W_1}{W_2} p_1$$

to separate data must be "linearly separable"
for example can not classify data of the type



to "train" they recommend to use "adapt"
rather than "train"