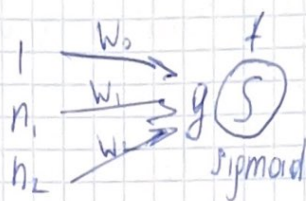


Daniyar Issenov ADA-2301 M  
Neural Network for "OR" function

Homework 1

$x_1$	$x_2$	$y$
0	0	0
0	1	1
1	0	1
1	1	1



$$\hat{y} \rightarrow \begin{cases} y = W_0 + W_1 n_1 + W_2 n_2 \\ \hat{y} = f(y) \end{cases}$$

$$\begin{cases} n_1 = 0, n_2 = 0 \rightarrow y = f(W_0) = 0 \\ n_1 = 0, n_2 = 1 \rightarrow y = f(W_0 + W_2) \geq 1 \\ n_1 = 1, n_2 = 0 \rightarrow y = f(W_0 + W_1) \geq 1 \\ n_1 = 1, n_2 = 1 \rightarrow y = f(W_0 + W_1 + W_2) = 1 \end{cases}$$

$W_0 < 0$ ; ex  $W_0 = -2$

$W_0 + W_2 \geq 0$

$W_2 \geq 2$

$\Rightarrow W_2 = 3$

$W_0 + W_1 \geq 0$

$W_1 \geq 2$

$W_0 + W_1 + W_2 \geq 0$

$W_1 \geq 2 - 3 = -1$

$\Rightarrow W_1 = 2,5$

$-2 + 0 + 0 = -2 < 0$

$-2 + 0 + 3 = 1 > 0$

$-2 + 2,5 + 0 = 0,5 > 0$

$-2 + 2,5 + 3 = 3,5 > 0$

