

Perceptron Learning Example Function AND

Bias Input $x_0 = +1$

Alpha = 0.5

Input	Input				Net Sum	Target	Actual	Alpha*	Weight Values		
x_1	x_2	$1.0 * w_0$	$x_1 * w_1$	$x_2 * w_2$	Input	Output	Output	Error	w_0	w_1	w_2
1									0.5	0.5	0.5
0	0	0.5	0	0	0.5	0	1	-0.5	0	0.5	0.5
0	1	0	0	0.5	0.5	0	1	-0.5	-0.5	0.5	0
1	0	-0.5	0.5	0	0	0	1	-0.5	-1	0	0
1	1	-1	0	0	-1	1	0	0.5	-0.5	0.5	0.5
0	0	-0.5	0	0	-0.5	0	0	0	-0.5	0.5	0.5
0	1	-0.5	0	0.5	0	0	1	-0.5	-1	0.5	0
1	0	-1	0.5	0	-0.5	0	0	0	-1	0.5	0
1	1	-1	0.5	0	-0.5	1	0	0.5	-0.5	1	0.5
0	0	-0.5	0	0	-0.5	0	0	0	-0.5	1	0.5
0	1	-0.5	0	0.5	0	0	1	-0.5	-1	1	0
1	0	-1	1	0	0	0	1	-0.5	-1.5	0.5	0
1	1	-1.5	0.5	0	-1	1	0	0.5	-1	1	0.5
0	0	-1	0	0	-1	0	0	0	-1	1	0.5
0	1	-1	0	0.5	-0.5	0	0	0	-1	1	0.5
1	0	-1	1	0	0	0	1	-0.5	-1.5	0.5	0.5
1	1	-1.5	0.5	0.5	-0.5	1	0	0.5	-1	1	1
0	0	-1	0	0	-1	0	0	0	-1	1	1
0	1	-1	0	1	0	0	1	-0.5	-1.5	1	0.5
1	0	-1.5	1	0	-0.5	0	0	0	-1.5	1	0.5
1	1	-1.5	1	0.5	0	1	1	0	-1.5	1	0.5
0	0	-1.5	0	0	-1.5	0	0	0	-1.5	1	0.5
0	1	-1.5	0	0.5	-1	0	0	0	-1.5	1	0.5
1	0	-1.5	1	0	-0.5	0	0	0	-1.5	1	0.5
1	1	-1.5	1	0.5	0	1	1	0	-1.5	1	0.5

$$\begin{aligned}
 \text{Acc} &= \frac{4+0}{4} = 1 \\
 &= 1 \times 100 \\
 &= 100\% \quad \text{X}
 \end{aligned}$$