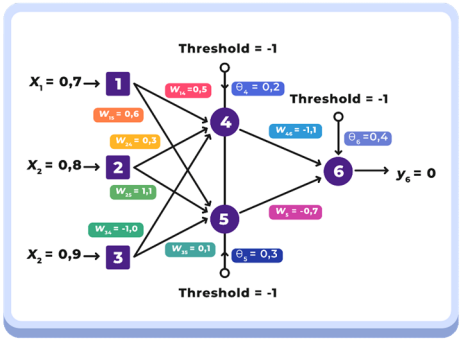

Initial Value

x_1	x_2	x_3	α	T	$Y_{d,6}$
0,7	0,8	0,9	0,1	-1,0	0,0

Initial Random

W_{14}	W_{15}	W_{24}	W_{25}	W_{34}	W_{35}	W_{46}	W_{56}	θ_4	θ_5	θ_6
0,5	0,6	0,3	1,1	-1,0	0,1	-1,1	-0,7	0,2	0,3	0,4

Forward Pass

Langkah 1: Menghitung output Neuron 4 (y_4), Neuron 5 (y_5), Neuron 6 (y_6), dan Error menggunakan sigmoid function

Y_4	Y_5	Y_6	e
0,38	0,75	0,21	-0,21

		e (euler number)	2,7183	output	
y_4	y4 = 1/(1+e^-(x1 * w1,4 + x2 * w2,4 + x3 * w3,4 + Tθ4))		-0,5100	0,3752	0,375193526
y_5	y5 = 1/(1+e^-(x1 * w1,5 + x2 * w2,5 + x3 * w3,5 + Tθ5))		1,0900	0,7484	0,748381722
y_6	y6 = 1/(1+e^-(y4* w4,6 + y5 * w5,6 + Tθ6))		-1,3366	0,2081	0,208073025
e	$e = y_{d,6} - y_6$			-0,2081	

Backward Pass

Langkah 2: Hitung error gradient untuk Neuron 6 di Output Layer dan weight corrections

δ_6	∇_{46}	∇_{56}	$\nabla\theta_6$
-0,0343	-0,0013	-0,0026	-0,0014

δ_6	$\delta_6 = y_6 * (1-y_6) * e$	-0,0343
$\nabla w_{4,6}$	$\nabla w_{4,6} = \alpha * y_4 * \delta_6$	-0,0013
$\nabla w_{5,6}$	$\nabla w_{5,6} = \alpha * y_5 * \delta_6$	-0,0026
$\nabla\theta_6$	$\nabla\theta_6 = \alpha * \theta_6 * \delta_6$	-0,0014

Langkah 3: Hitung error gradients untuk Neuron 4 dan Neuron 5 di Middle Layer/Hidden Layer

δ_4	δ_5
0,0088	0,0045

δ_4	$\delta_4 = y_4 * (1-y_4) * \delta_6 * w_{4,6}$	0,0088
δ_5	$\delta_5 = y_5 * (1-y_5) * \delta_6 * w_{5,6}$	0,0045

Langkah 4: Hitung weight corrections

∇w_{14}	∇w_{24}	∇w_{34}	$\nabla \theta_4$	∇w_{15}	∇w_{25}	∇w_{35}	$\nabla \theta_5$
0,0006	0,0007	0,0008	0,0002	0,0003	0,0004	0,0004	0,0001

$\nabla w_{1,4}$	$\nabla w_{1,4} = \alpha * x_1 * \delta_4$	0,0006
$\nabla w_{2,4}$	$\nabla w_{2,4} = \alpha * x_2 * \delta_4$	0,0007
$\nabla w_{3,4}$	$\nabla w_{3,4} = \alpha * x_3 * \delta_4$	0,0008
$\nabla \theta_4$	$\nabla \theta_4 = \alpha * \theta_4 * \delta_4$	0,0002
$\nabla w_{1,5}$	$\nabla w_{1,5} = \alpha * x_1 * \delta_5$	0,0003
$\nabla w_{2,5}$	$\nabla w_{2,5} = \alpha * x_2 * \delta_5$	0,0004
$\nabla w_{3,5}$	$\nabla w_{3,5} = \alpha * x_3 * \delta_5$	0,0004
$\nabla \theta_5$	$\nabla \theta_5 = \alpha * \theta_5 * \delta_5$	0,0001

Langkah 5: Hitung semua weights dan theta pada arsitektur yang telah diperbarui

w_{14}	w_{15}	w_{24}	w_{25}	w_{34}	w_{35}	θ_4	θ_5	θ_6
0,50	0,60	0,30	1,10	-1,00	0,10	0,20	0,30	0,40

$w_{1,4}'$	$w_{1,4}' = w_{1,4} + \nabla w_{1,4}$	0,5006
$w_{1,5}'$	$w_{1,5}' = w_{1,5} + \nabla w_{1,5}$	0,6003
$w_{2,4}'$	$w_{2,4}' = w_{2,4} + \nabla w_{2,4}$	0,3007
$w_{2,5}'$	$w_{2,5}' = w_{2,5} + \nabla w_{2,5}$	1,1004
$w_{3,4}'$	$w_{3,4}' = w_{3,4} + \nabla w_{3,4}$	-0,9992
$w_{3,5}'$	$w_{3,5}' = w_{3,5} + \nabla w_{3,5}$	0,1004
$w_{4,6}'$	$w_{4,6}' = w_{4,6} + \nabla w_{4,6}$	-0,0013
$w_{5,6}'$	$w_{5,6}' = w_{5,6} + \nabla w_{5,6}$	-0,7026
θ_4'	$\theta_4' = \theta_4 + \nabla \theta_4$	0,2002
θ_5'	$\theta_5' = \theta_5 + \nabla \theta_5$	0,3001
θ_6'	$\theta_6' = \theta_6 + \nabla \theta_6$	0,3986