

Quadratic Machine Hw

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CS 478
1/15/19

X	Y	xy	Bias	Target	weights	net	output	Δw
-1	-1	1	1	0	0 0 0 0	0	0	0 0 0 0
-1	1	-1	1	1	0 0 0 0	0	0	-0.4 0.4 -0.4 0.4
1	-1	-1	1	1	-0.4 -0.4 -0.4 -0.4	0	0	0.4 -0.4 -0.4 0.4
1	1	1	1	0	0 0 -0.8 0	0	0	0 0 0 0

$$0.4(1-0)(-1-1-1-1) \rightarrow -0.4 \ 0.4 \ -0.4 \ 0.4$$

$$0.4(1-0)(1-1-1-1) \rightarrow 0.4 \ -0.4 \ -0.4 \ 0.4$$

- Yes it learned to solve the problem after 1 epoch
- xy is the only feature actually needed