

SUBJECT:

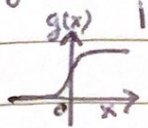
Magnitude Prediction

(don't care about sign for now)
direction

Single perceptron (Sigmoid)

X (3×3)

$$\epsilon = 1E-9$$

$$g(x) = \frac{1}{1 + e^{-x}}$$


normalize

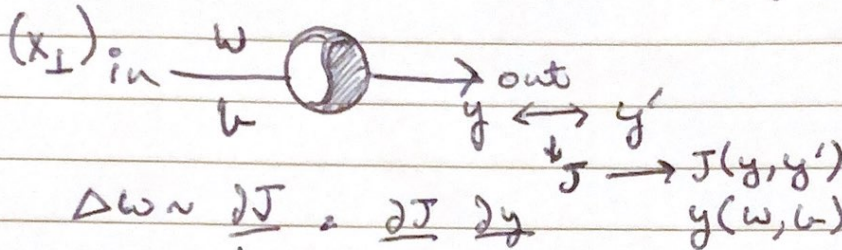
x_{\perp}

$$z = wX + b$$

$$y = g(z)$$

$$J = \frac{1}{2N} \sum_R (y_{Rk}^{\text{pred}} - y_{Rk}^{\text{target}})^2$$

$$\sim (y - y')^2$$



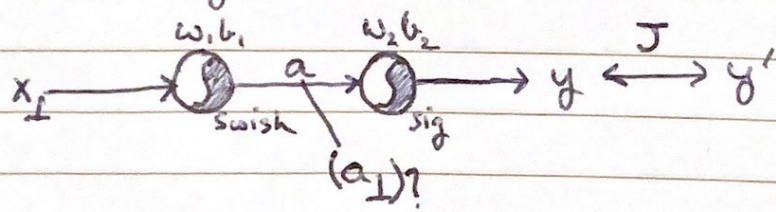
$$\Delta w \sim \frac{\partial J}{\partial w} = \frac{\partial J}{\partial y} \frac{\partial y}{\partial w}$$

$$\Delta b \sim \frac{\partial J}{\partial b} = \frac{\partial J}{\partial y} \frac{\partial y}{\partial b}$$

$$\frac{\partial A}{\partial B} \approx \frac{A(B+\epsilon) - A(B-\epsilon)}{2\epsilon}$$

comments
not
ok very good

Swish \rightarrow Sigmoid



$$\Delta w_2 \sim \frac{\partial J}{\partial w_2} = \frac{\partial J}{\partial y} \frac{\partial y}{\partial a_2} \frac{\partial a_2}{\partial w_2}$$

"change in J (error) wrt w_2 "

$$\Delta b_2 \sim \frac{\partial J}{\partial b_2}$$

$$\Delta w_1 \sim \frac{\partial J}{\partial w_1} = \frac{\partial J}{\partial y} \frac{\partial y}{\partial a_1} \frac{\partial a_1}{\partial w_1}$$

"change in J wrt w_1 "

$$\Delta b_1 \sim$$