

→

→ 2

→

→

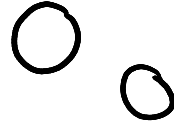
$$w = [w_1 \ w_2 \ w_3 \ w_4]$$

$$x = [1 \ x_2 \ x_3 \ x_4]$$

2

—

↑ ...
 $w_3 w_4$



$$y = mx + b$$

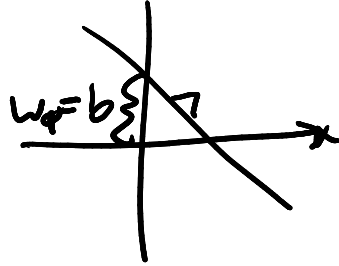
$$y = w_2 x_2 + w_0 \textcircled{1}$$

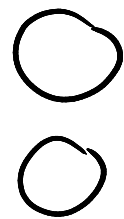
$$x_0 = 1$$

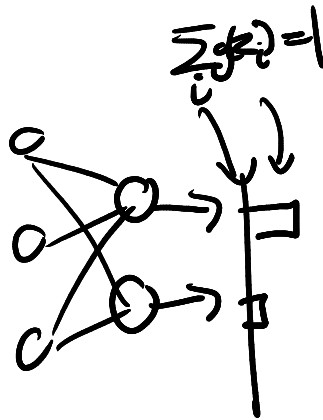
$$z = w^T x$$

↑
sign

↑
sigmoid

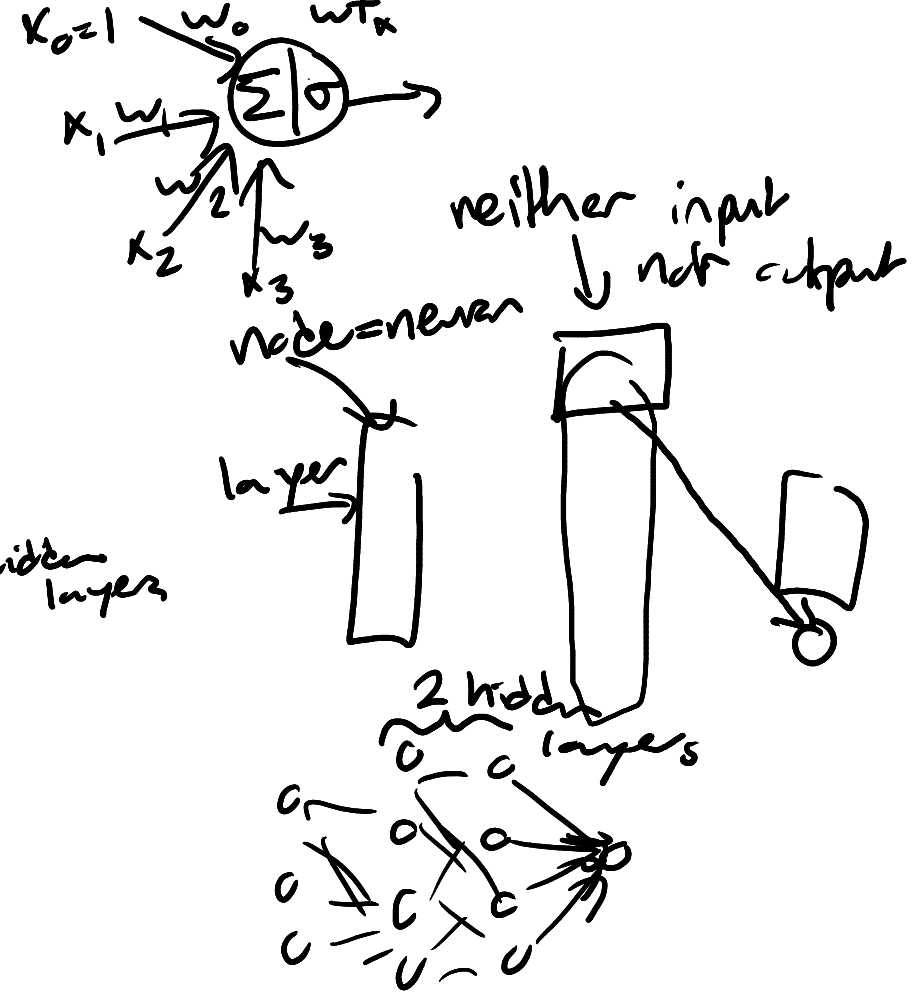






neuron

= 1 or more hidden layers



simple
more ^
~~~~~

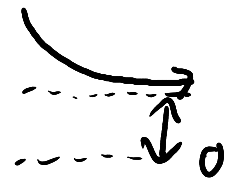
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↳



how many?  
hyperparameters

model complexity  $\longleftrightarrow$  • problem difficulty  
• data # examples



"Architecture"  
Search

theory math  $\leftarrow$  or  $\rightarrow$  input regressor

$\nwarrow$  Adam  
variant of SGD



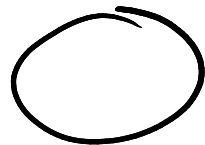




Preprocessing

Red  $\rightarrow 1$   
Green  $\rightarrow 2$   
Blue  $\rightarrow 3$  } why not? categorical Label Encoder  
 $\rightarrow$  ordinal

3 {



3

d1: is red?  
d2: is blue?































