

Introduction to DL

04 August 2020 04:00 PM

Deep learning?



Starting @

4:10
PM

Deep Learning

What society thinks I do



What my friends think I do



What other computer scientists think I do



What mathematicians think I do



What I think I do



In [1]:
import keras
Using TensorFlow backend.

What I actually do



Yoshua
Bengio

Geoffrey
Hinton

Yann LeCun

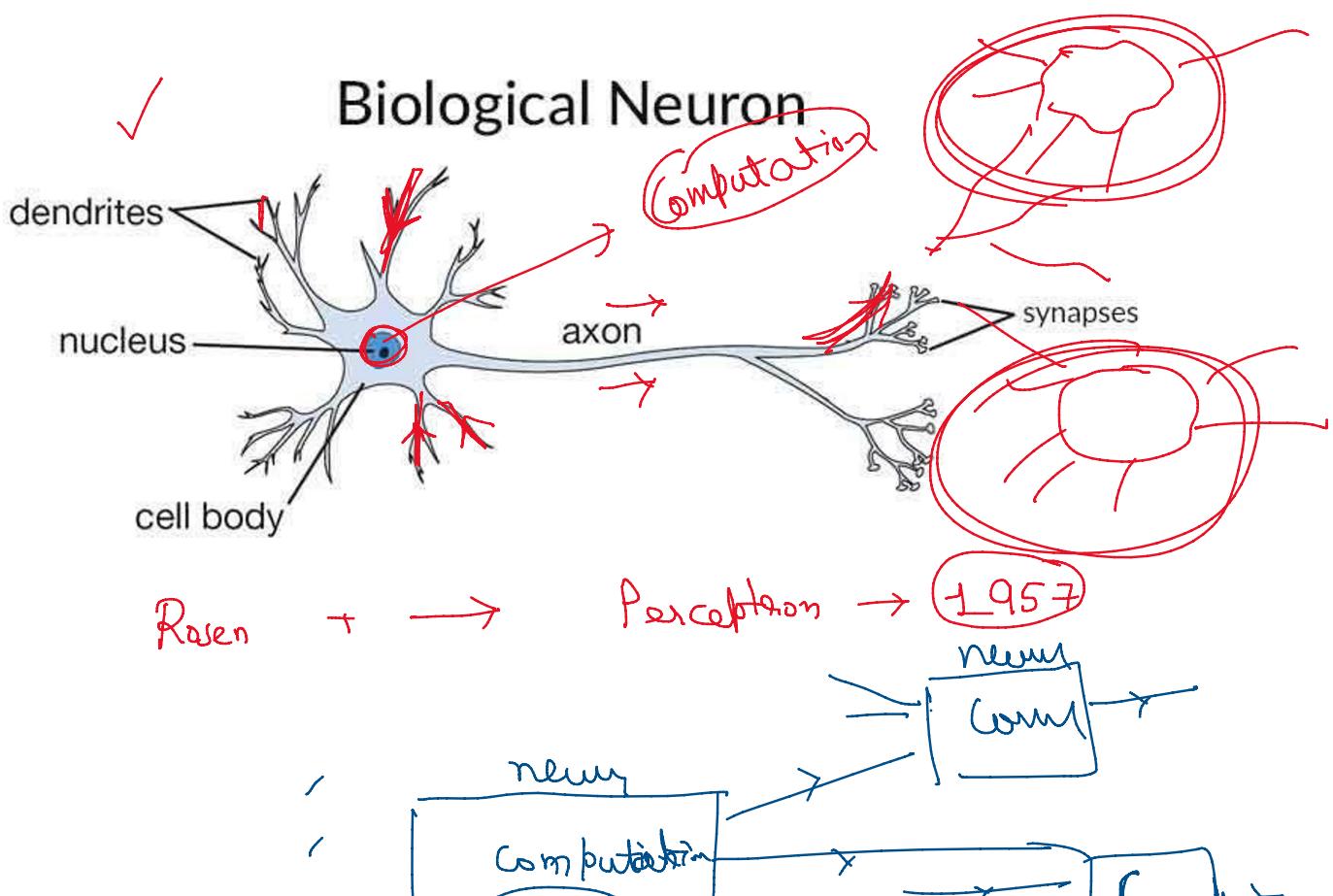


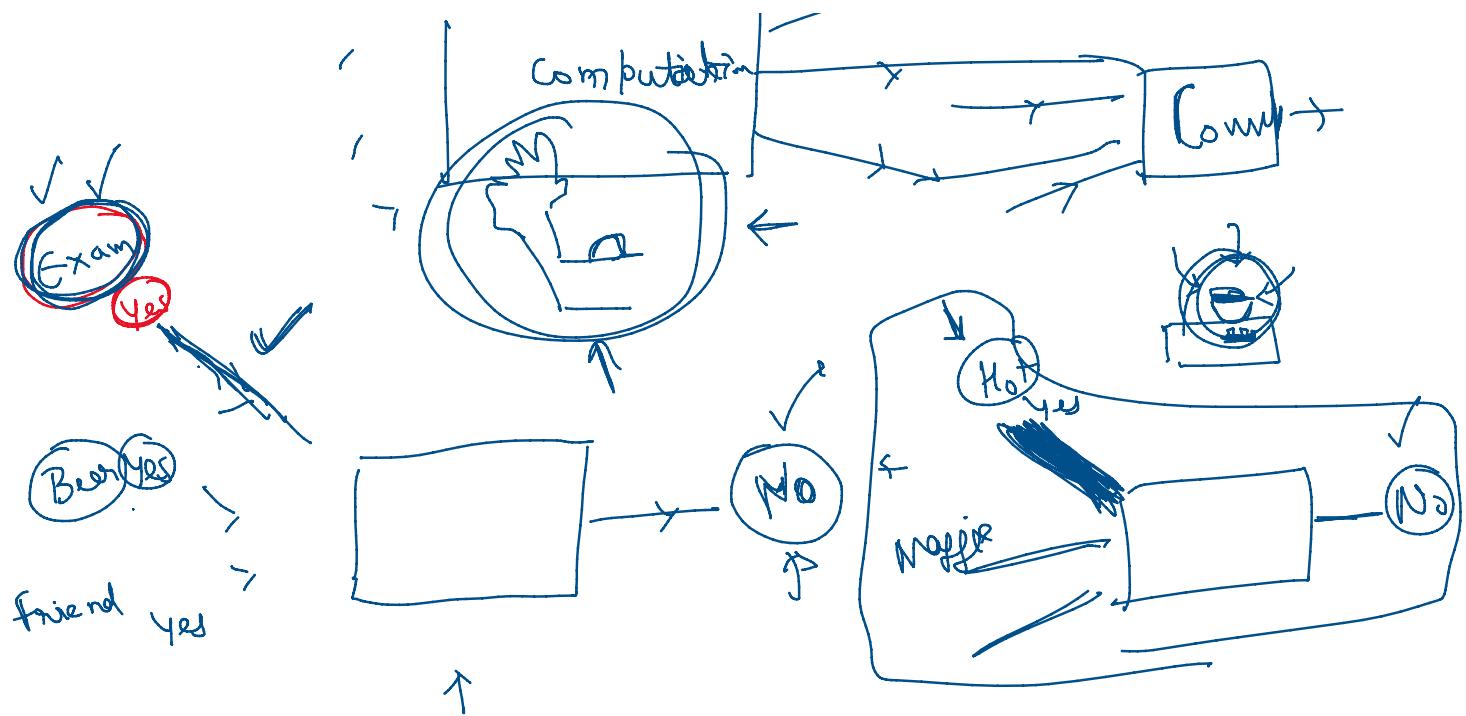
Computer Facts
@computerfact



concerned parent: if all your friends jumped off a bridge would you follow them?
machine learning algorithm: yes.

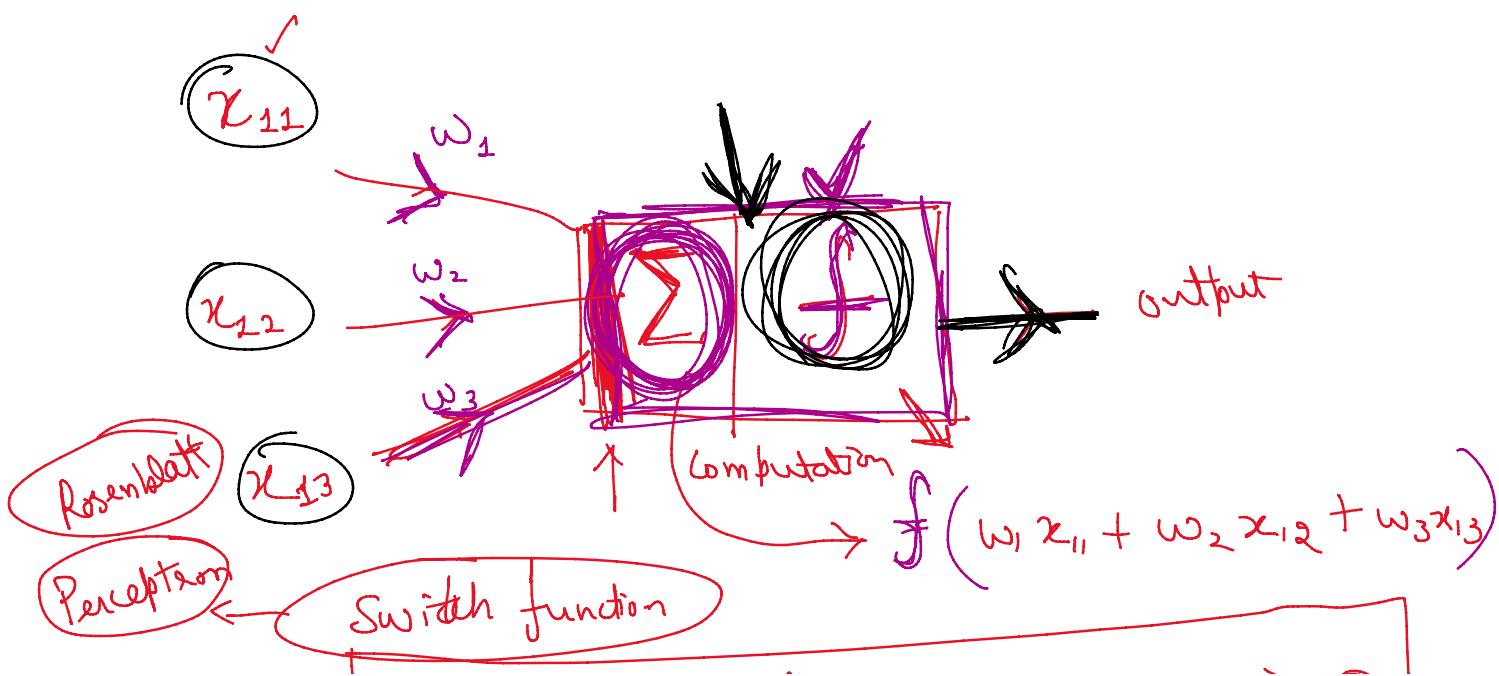
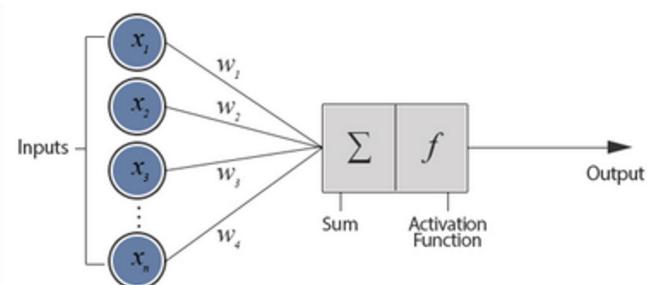
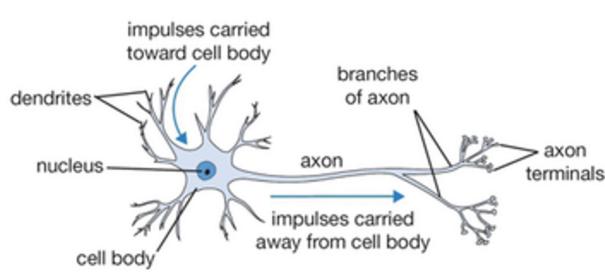
2:20 PM · Mar 15, 2018



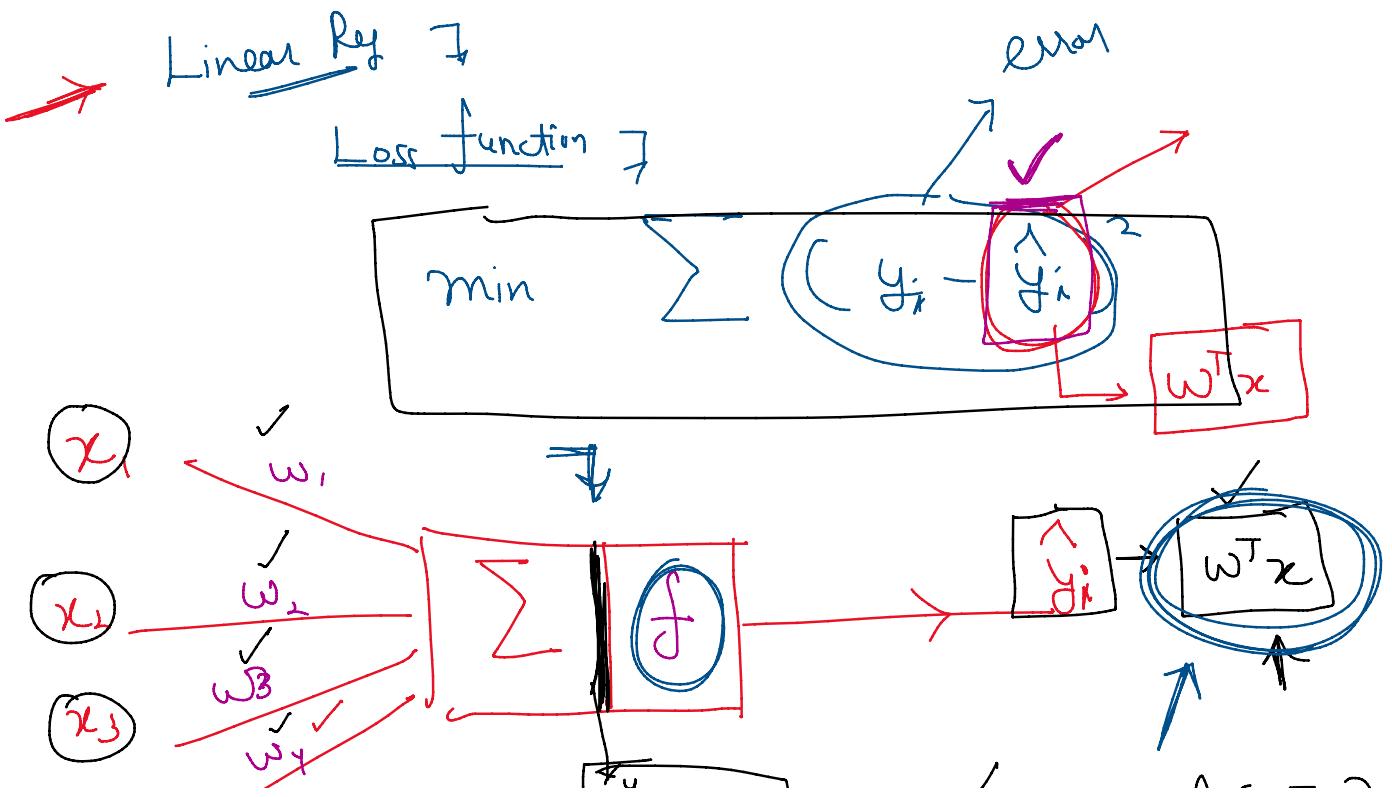
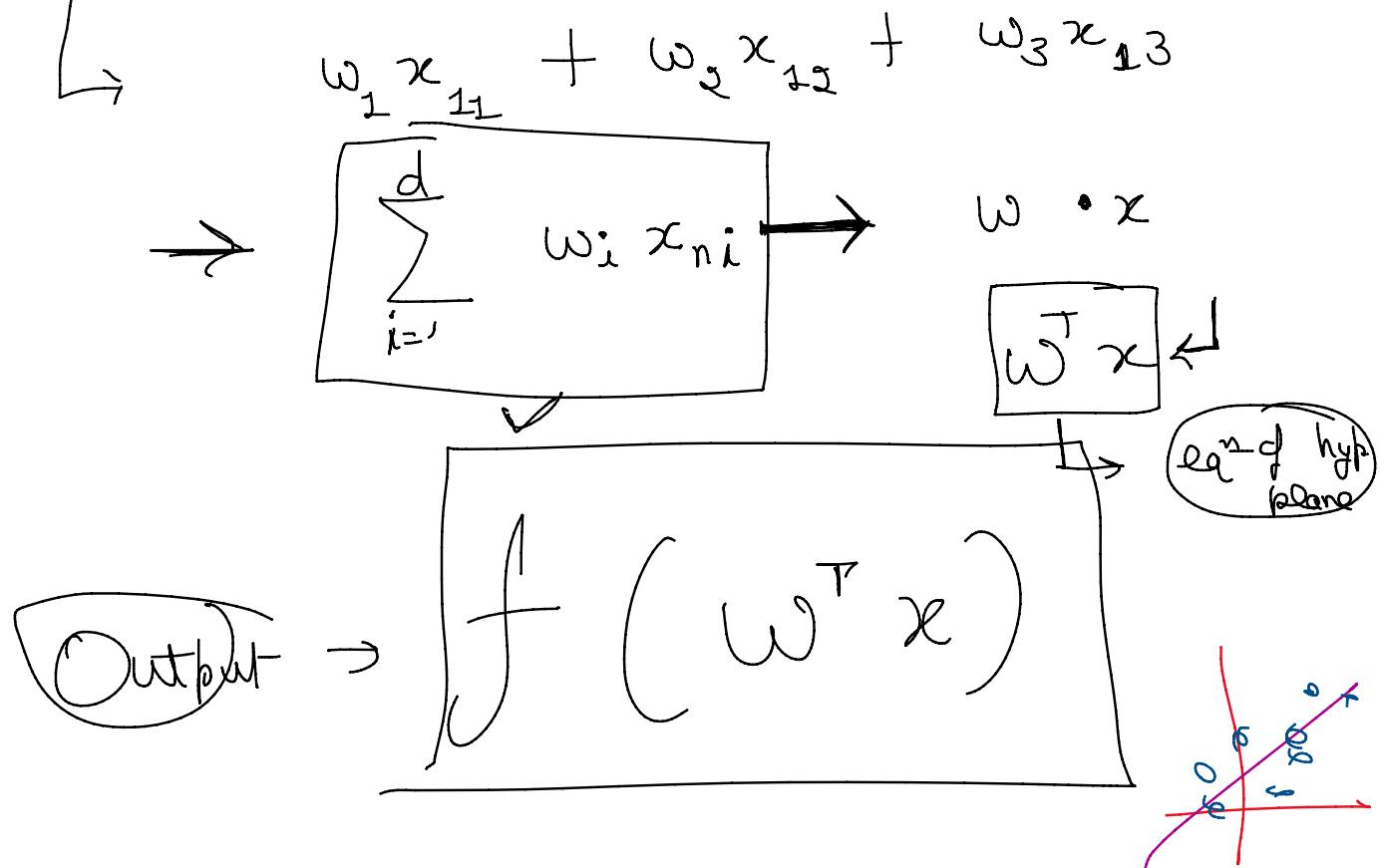


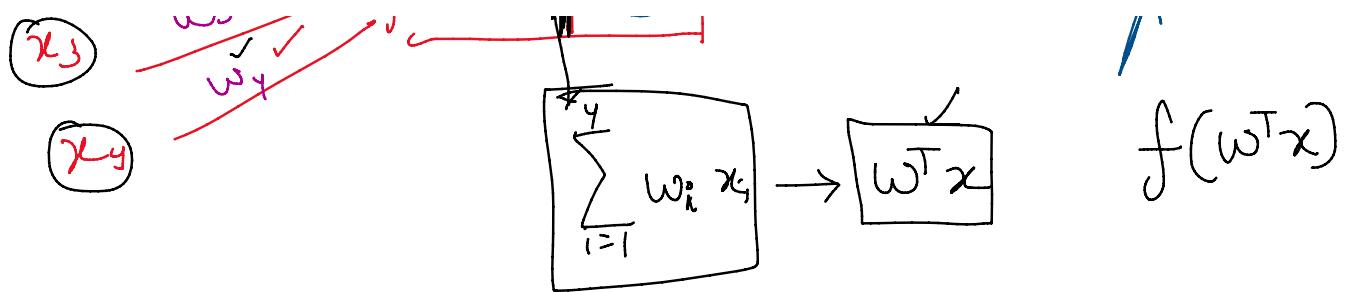
5:11 to 5:25

Biological Neuron versus Artificial Neural Network

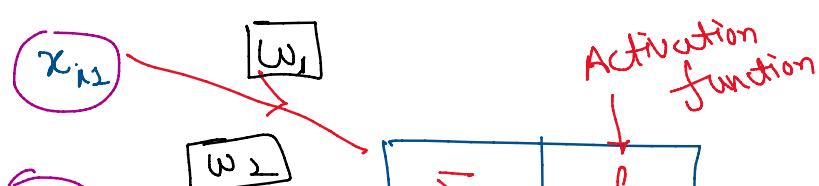
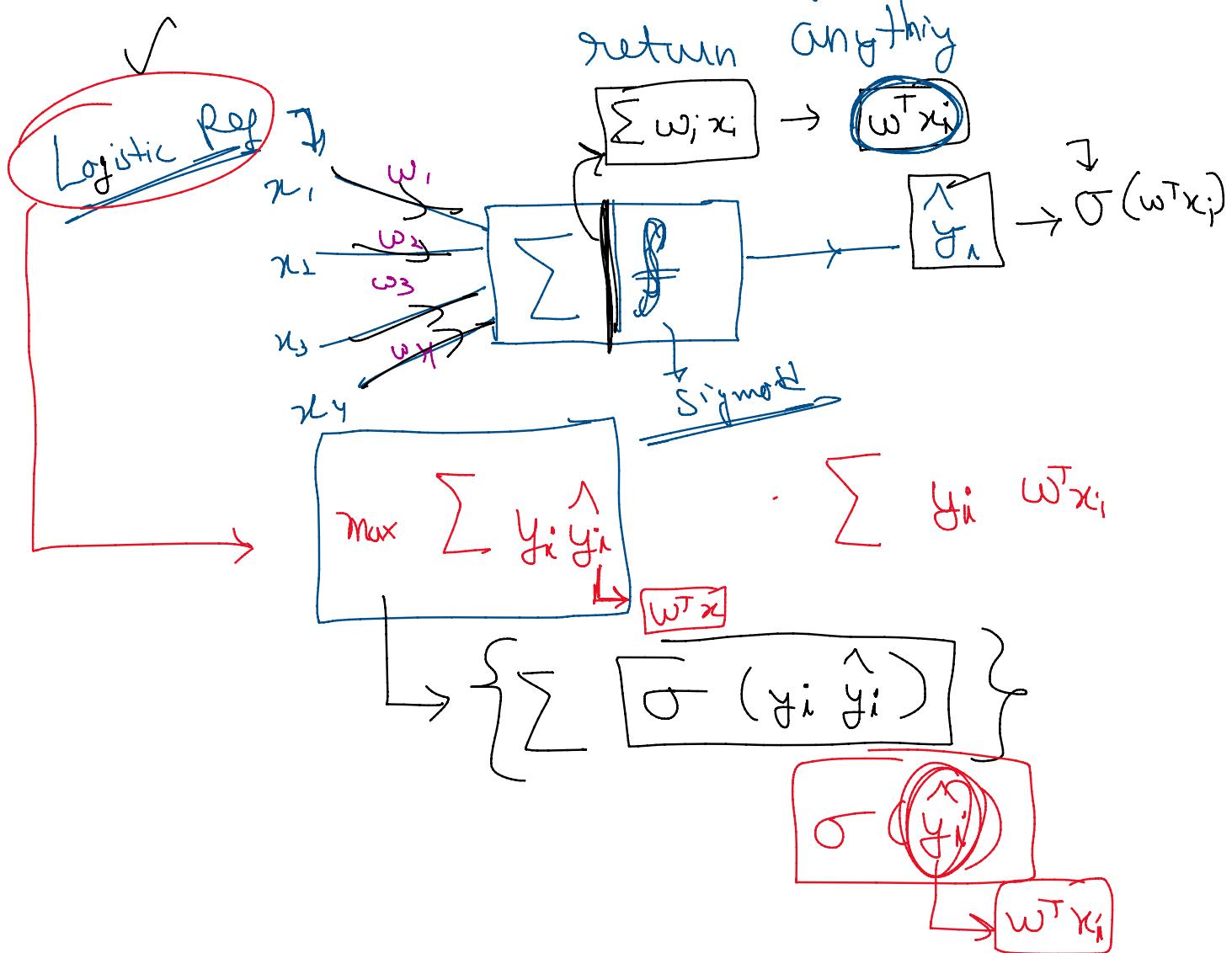


(Perceptron) Switch function

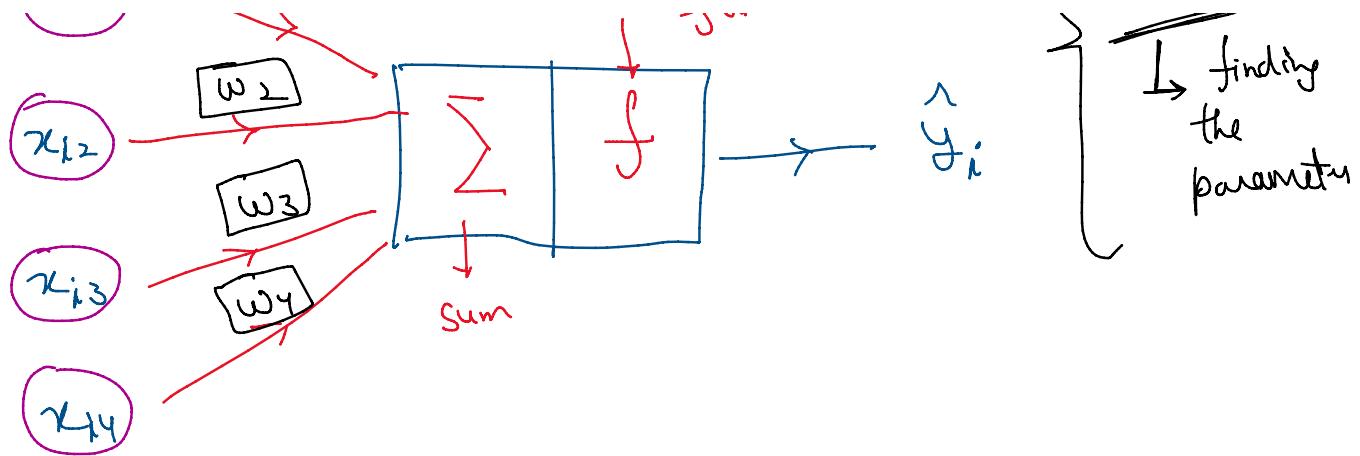
$$f(\text{anything}) = \begin{cases} 1 & \text{anything } > 0 \\ 0 & \text{otherwise} \end{cases}$$




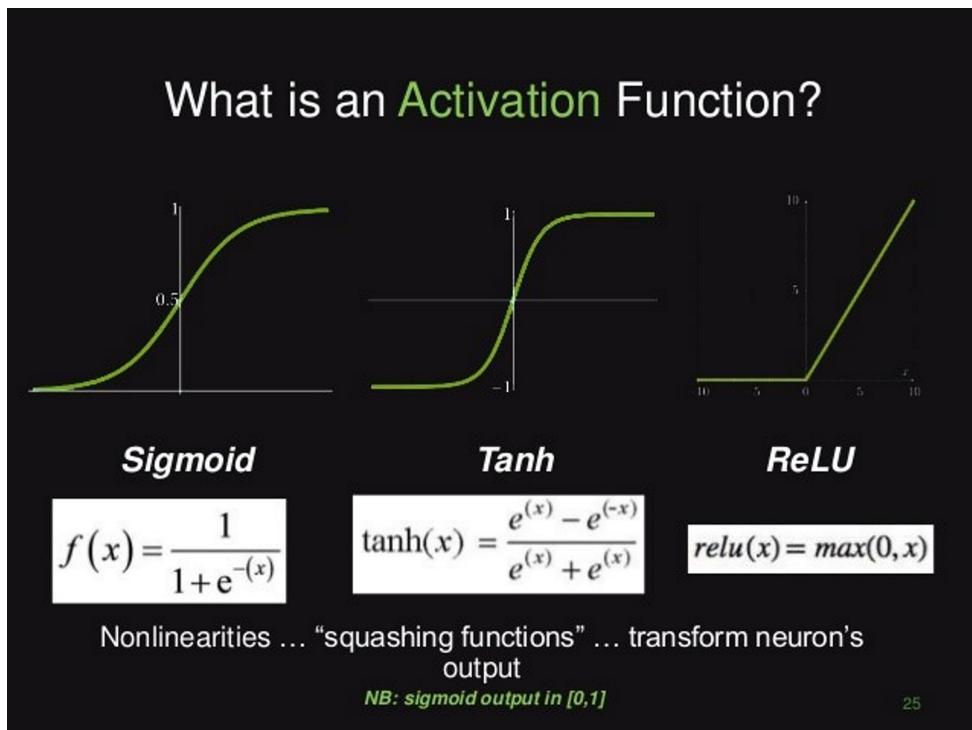
def fun (anything):



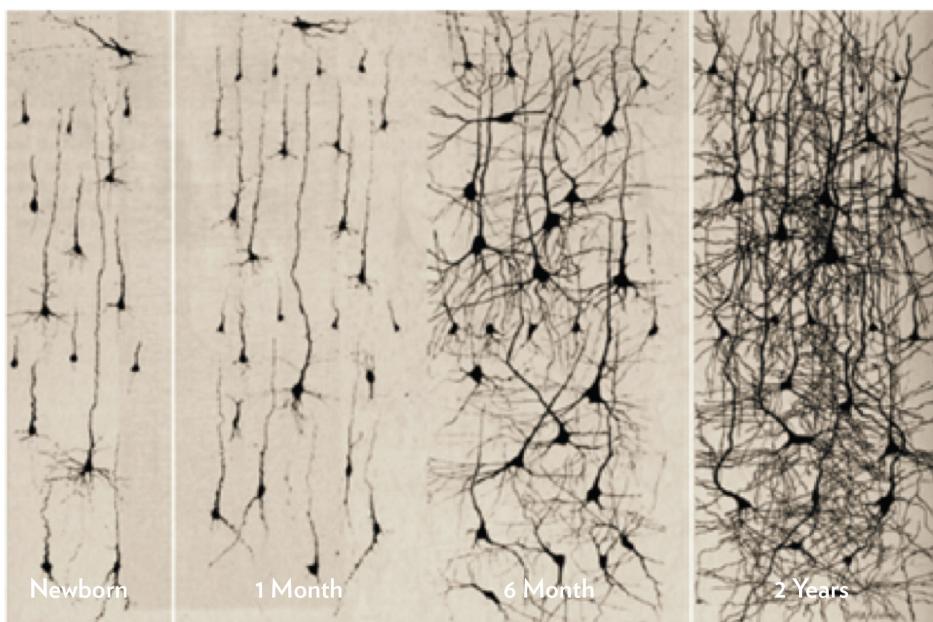
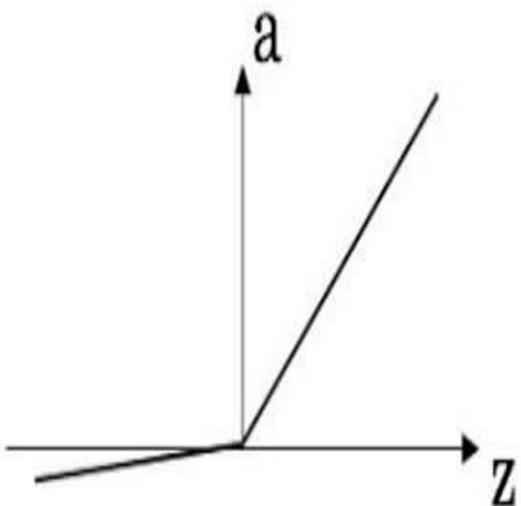
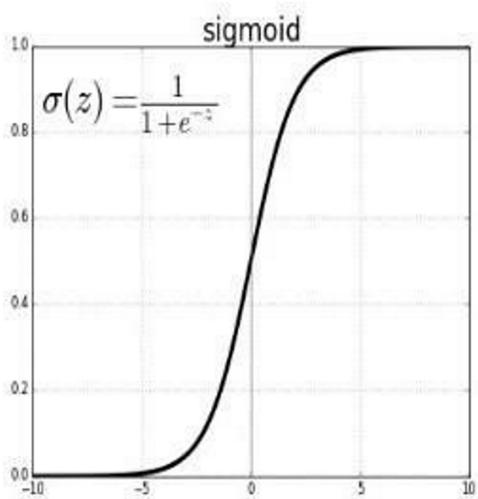
Training
finding



- Activation function
1. Switch function \rightarrow Perception
 2. Unit function $\rightarrow f(x) = x \rightarrow$ Linear Reg
 3. Sigmoid function $\rightarrow f(x) = \sigma(x) \rightarrow$ Logistic Reg



You vs the guy she tells you not to worry about



DRAMATIC GROWTH OF NEURONAL ARCHITECTURE FROM BIRTH TO 2 YRS

Source: "The Pediatricians Role in Addressing Childhood Poverty", David Keller

