



Tom Yeh (He/Him) • Following
CS Prof | AI by Hand 🖋️ | CU Boulder
Subscribe to newsletter
9mo • Edited • 🔒

III. Can you calculate this by hand? [3. Hidden Layer]

My 5 hand-on exercises to teach the basics of deep learning

[Exercise 3 of 5: Hidden Layer]

This exercise allows students to practice the following:

1. Hidden Layer: $W1 * x + b1 \rightarrow \text{ReLU} \rightarrow h$
2. Output Layer: $W2 * h + b2 \rightarrow \text{ReLU} \rightarrow y$
3. Draw a graphical representation of this two-layer network
4. See the correspondence between weights and nodes

of weights in a hidden node = # of nodes in the input layer

of weights in an output node = # of nodes in the hidden layer

5. Count all the parameters of this network: $4 * (3 + 1) + 2 * (4 + 1)$
 $= 16 + 10 = 26$

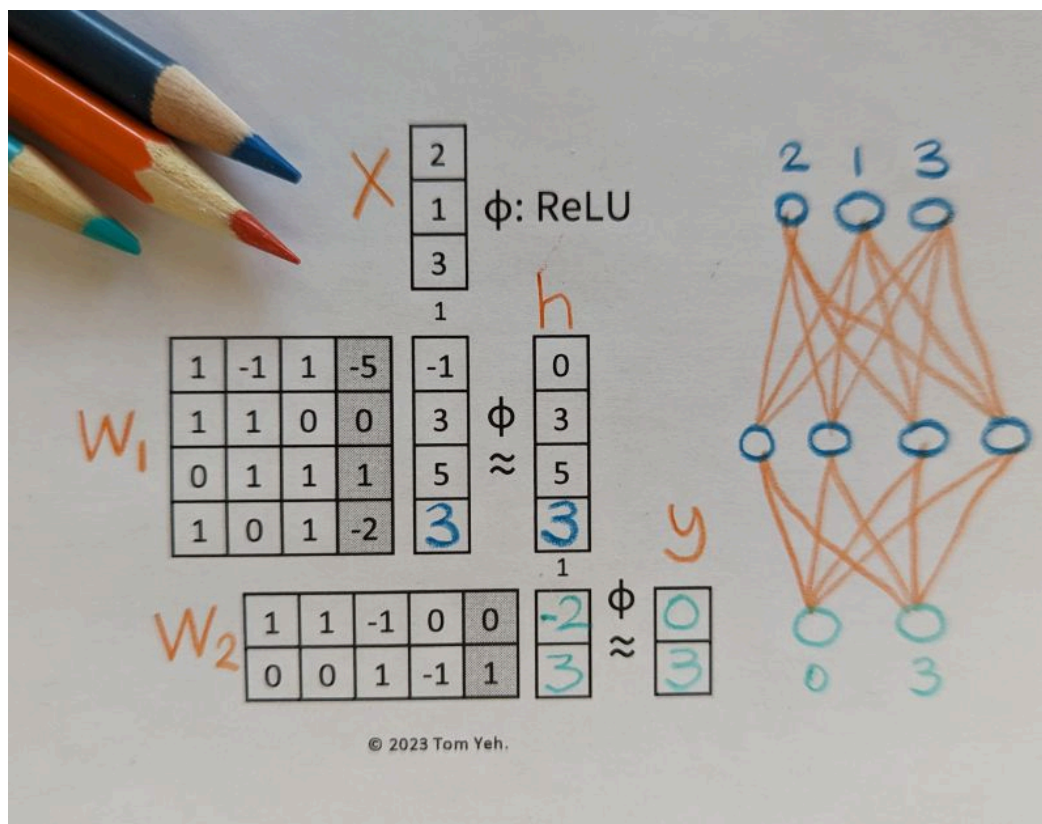
Next, I will extend this exercise from one input vector to a batch of input vectors.

Review the first two exercises:

[1] Single Neuron: <https://lnkd.in/gKqEGPgF>

[2] Four Neurons: <https://lnkd.in/gc-qwJ6X>

#deeplearning #neuralnetworks



👍👍👍 117

4 comments 7 reposts