



AI/MACHINE LEARNING WORKSHOP

DAY 11: INTRODUCTION TO AI & ML: NEURAL NETWORKS

Youth Opportunities in Tech Innovation



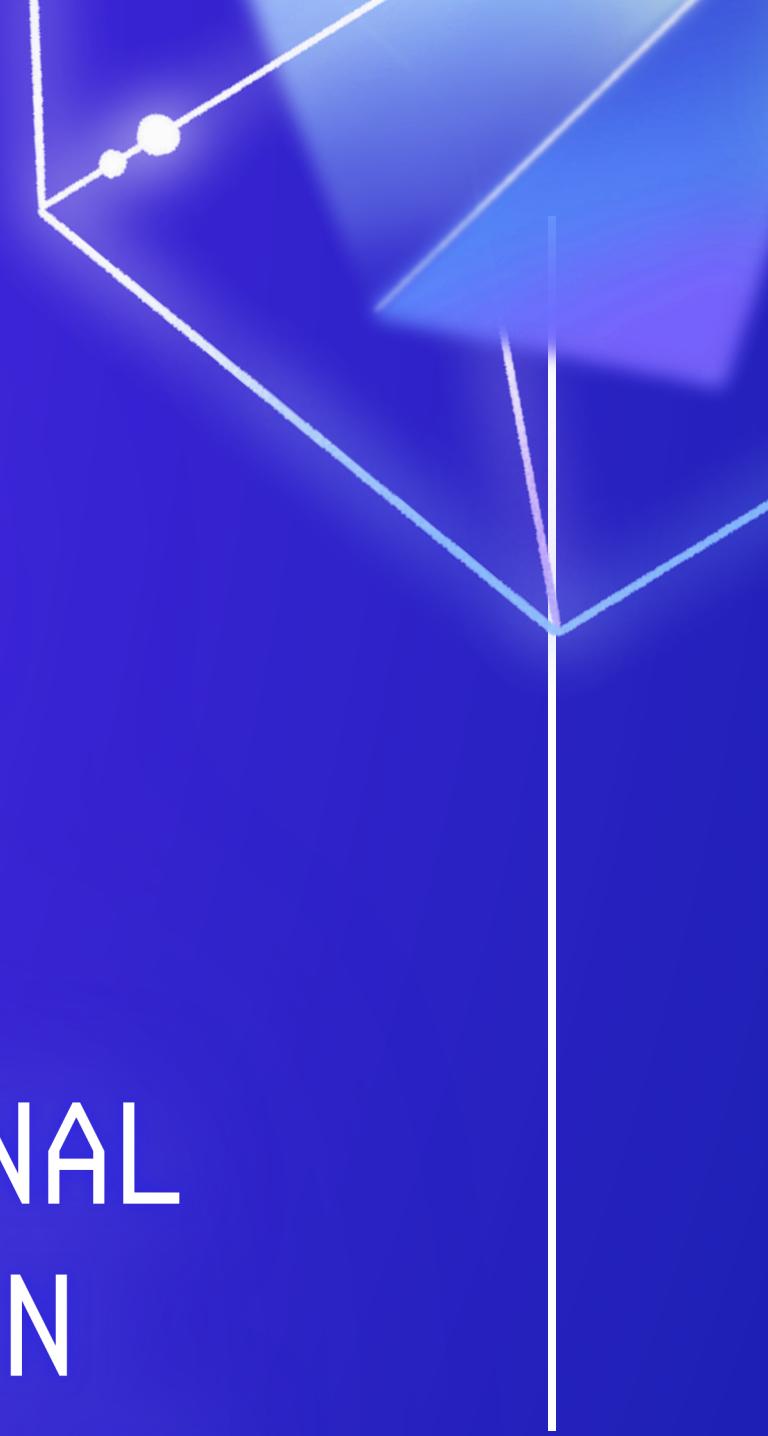


REMINDER PLEASE
ASK QUESTIONS!

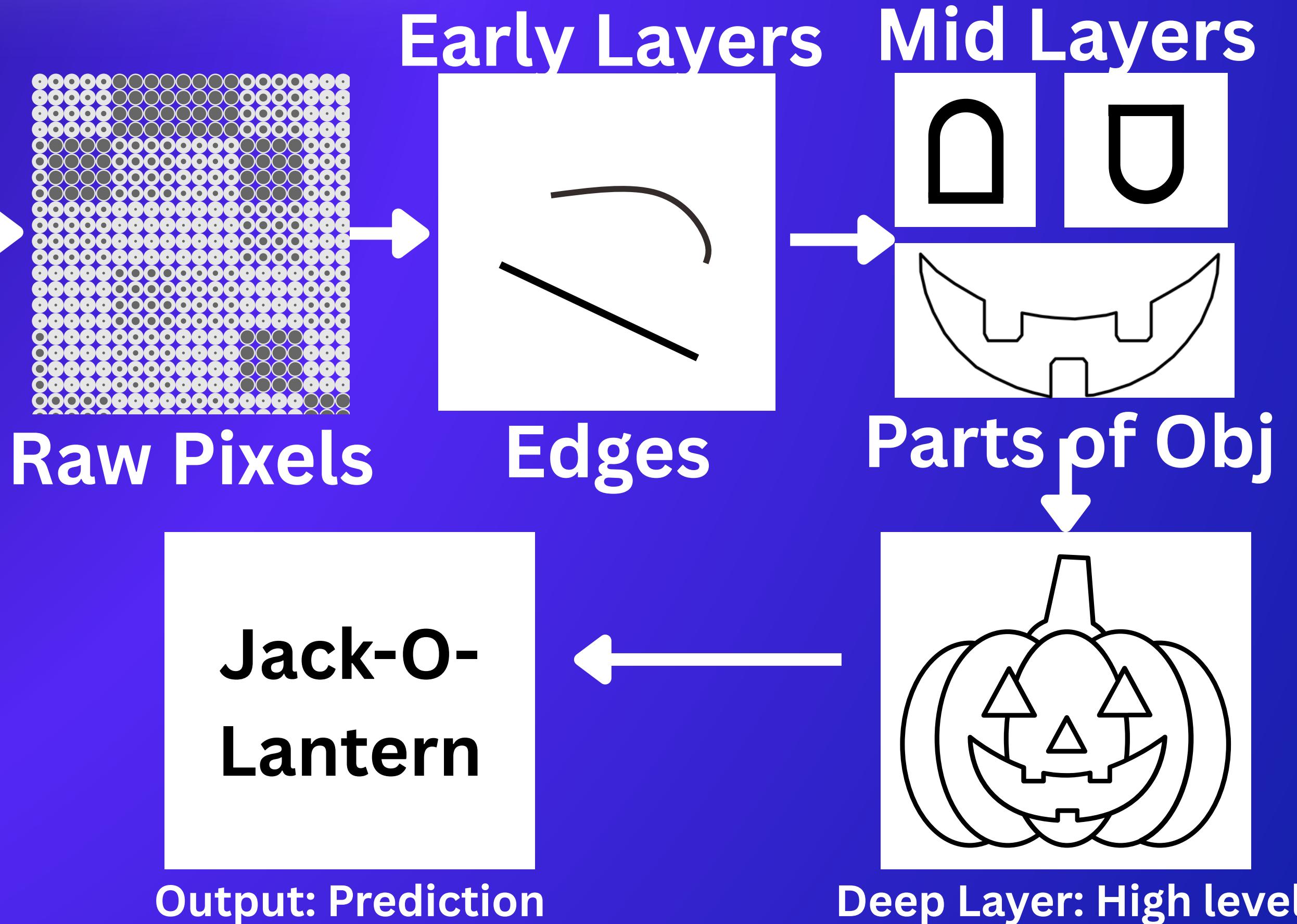


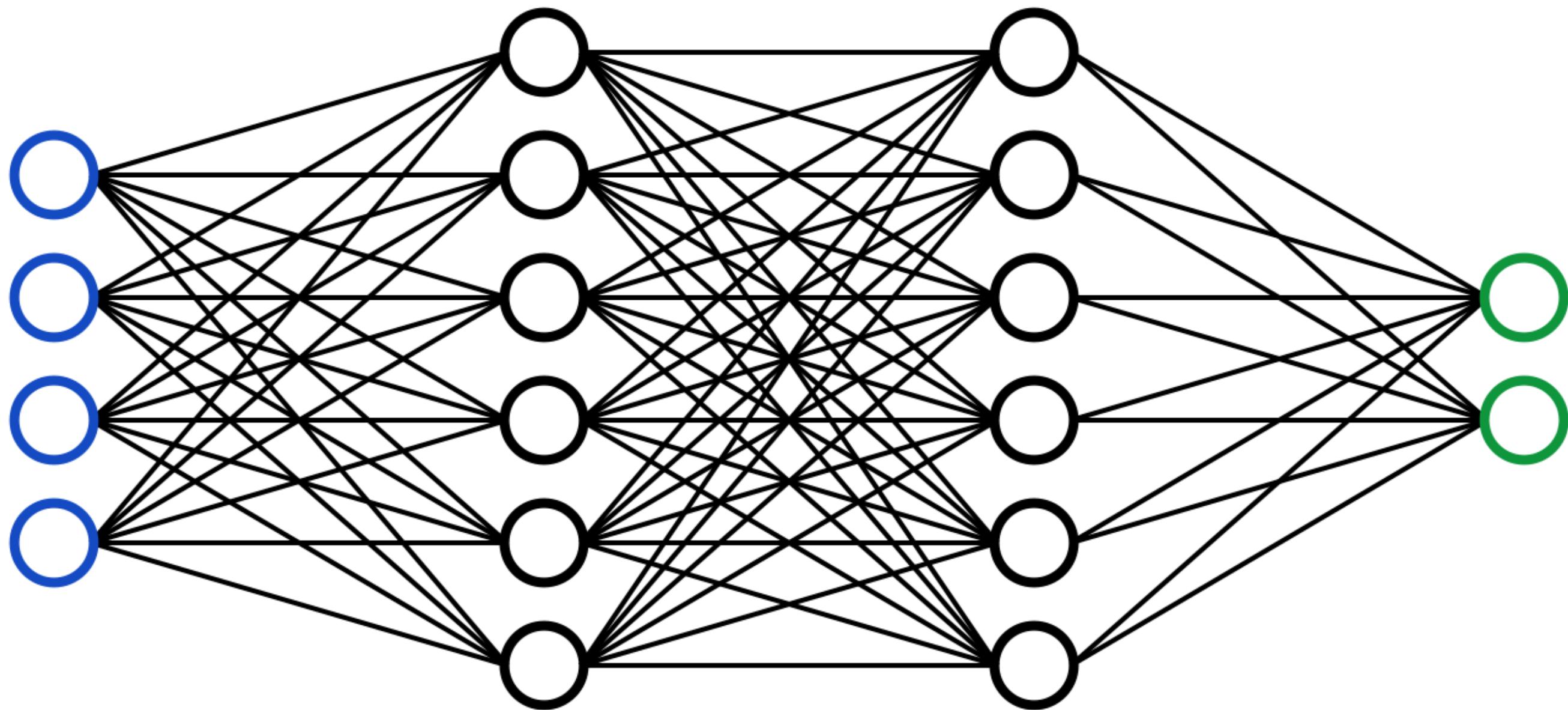
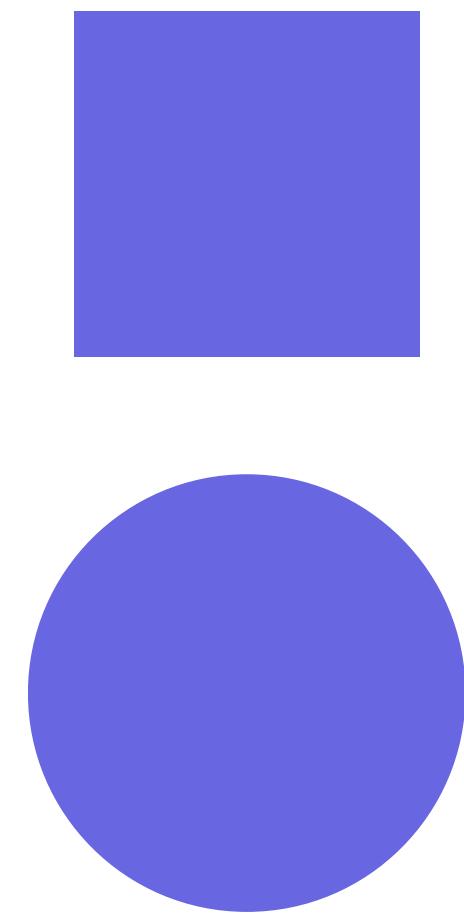
WHAT IS NEURAL NETWORK

A NEURAL NETWORK IS A COMPUTATIONAL MODEL INSPIRED BY THE HUMAN BRAIN THAT PROCESSES DATA THROUGH LAYERS OF INTERCONNECTED NODES TO RECOGNIZE PATTERNS AND MAKE PREDICTIONS.



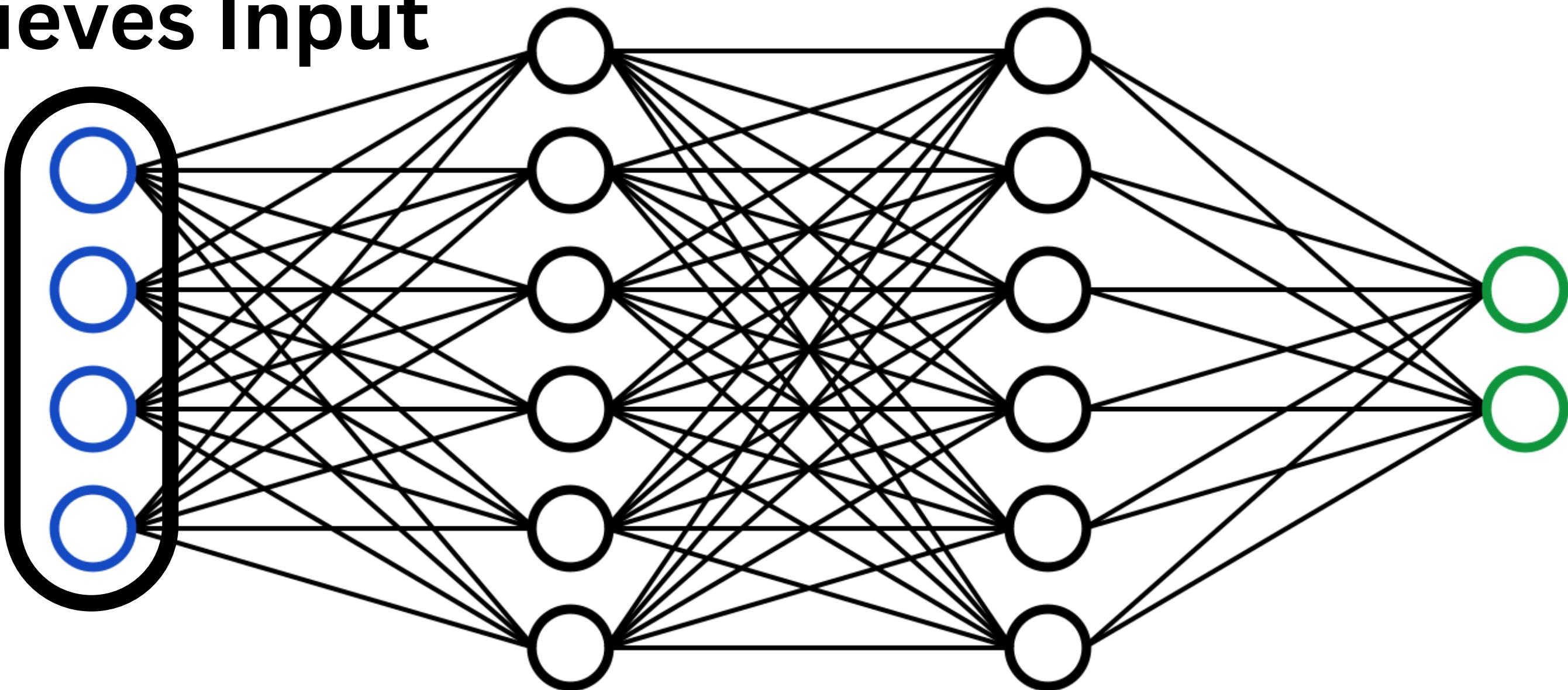
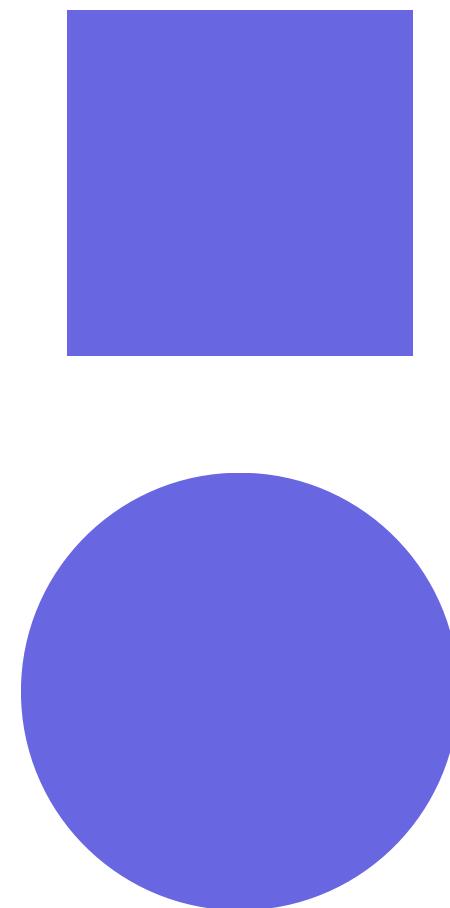
2. DEEP LEARNING (DL)



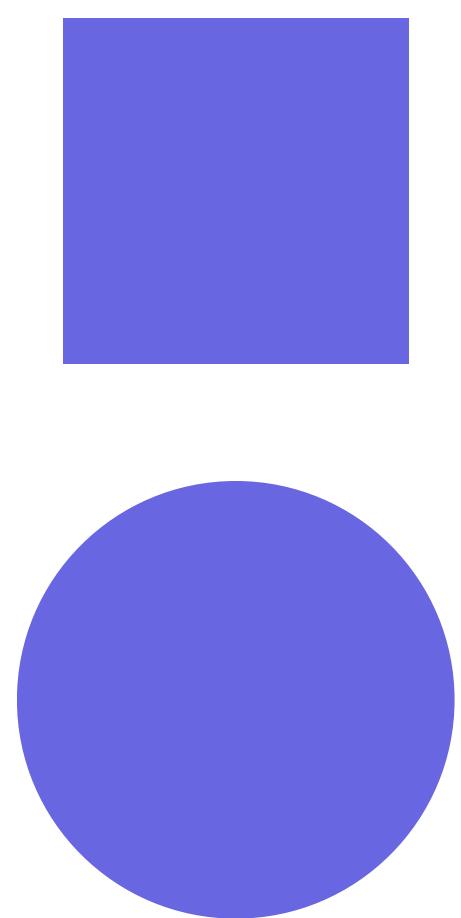
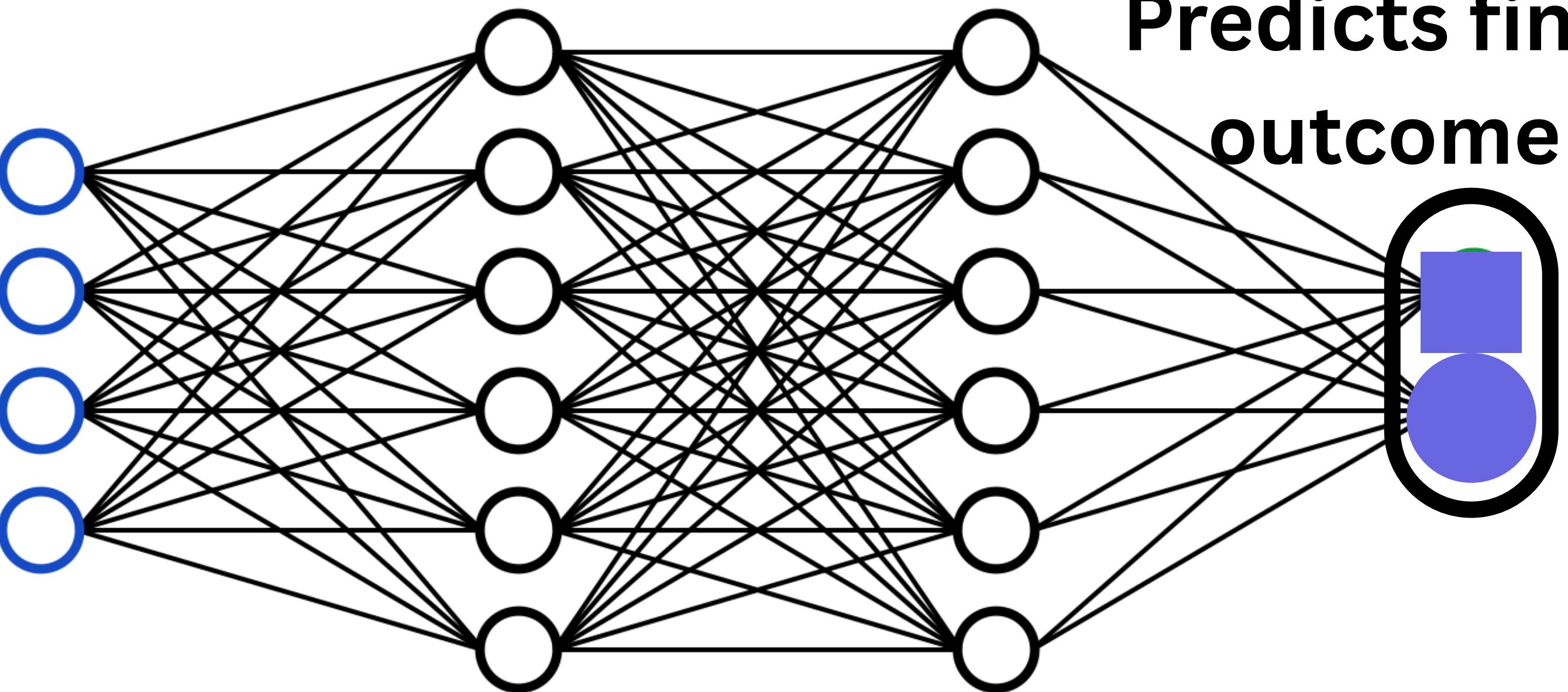


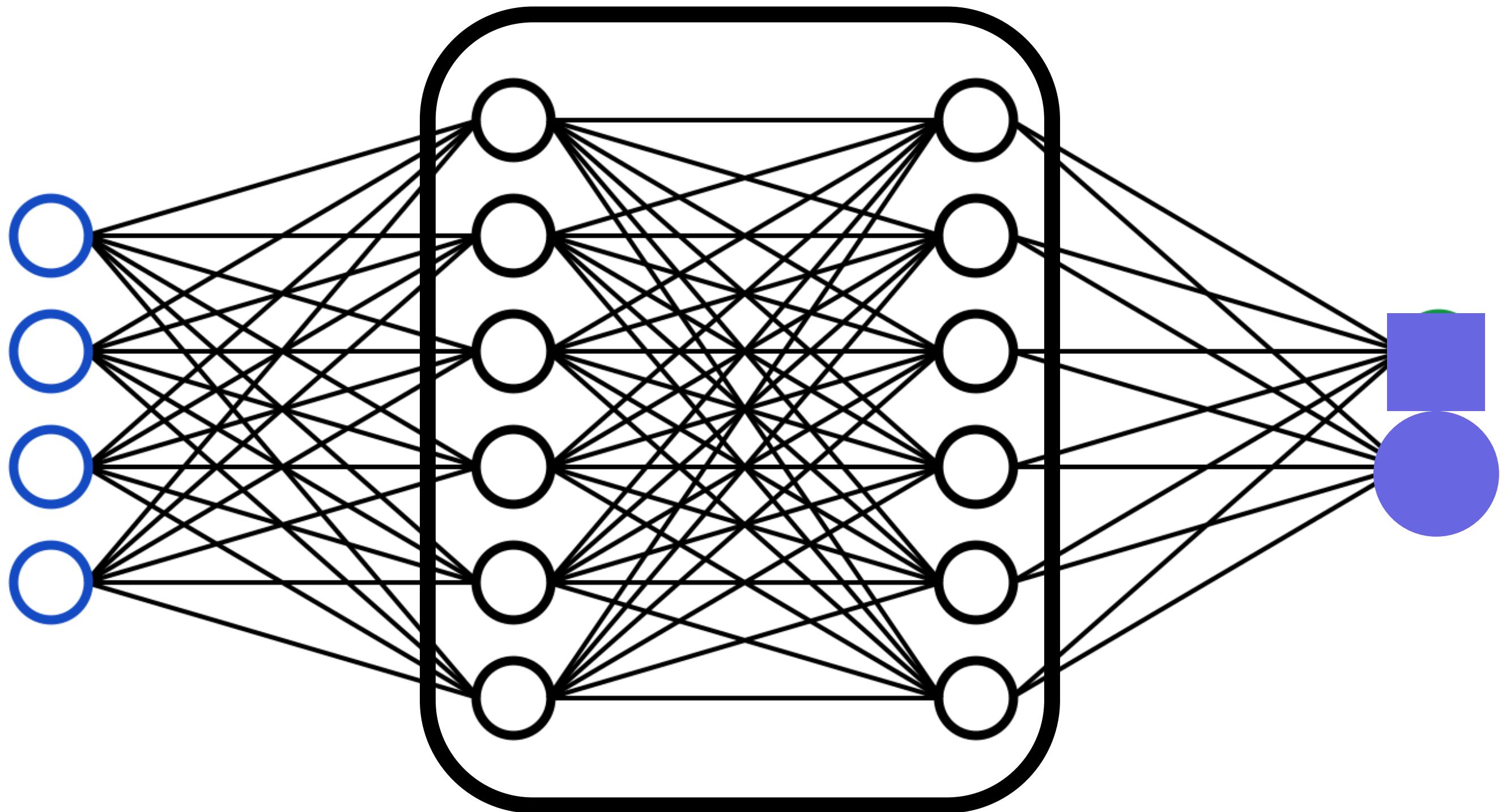
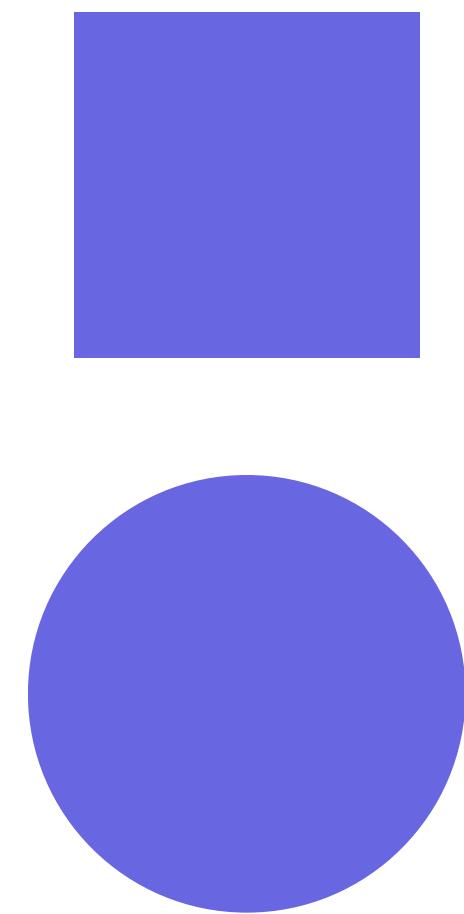
Input Layers:

Recieves Input



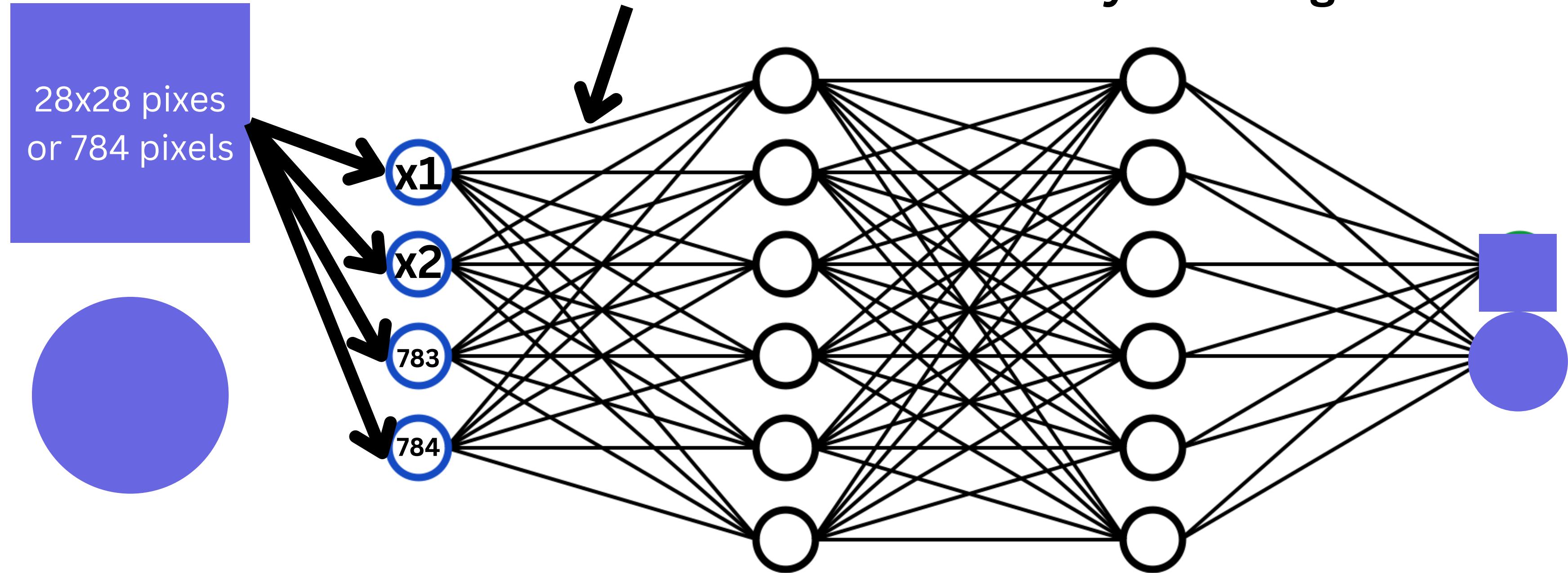
Output Layers:
Predicts final
outcome



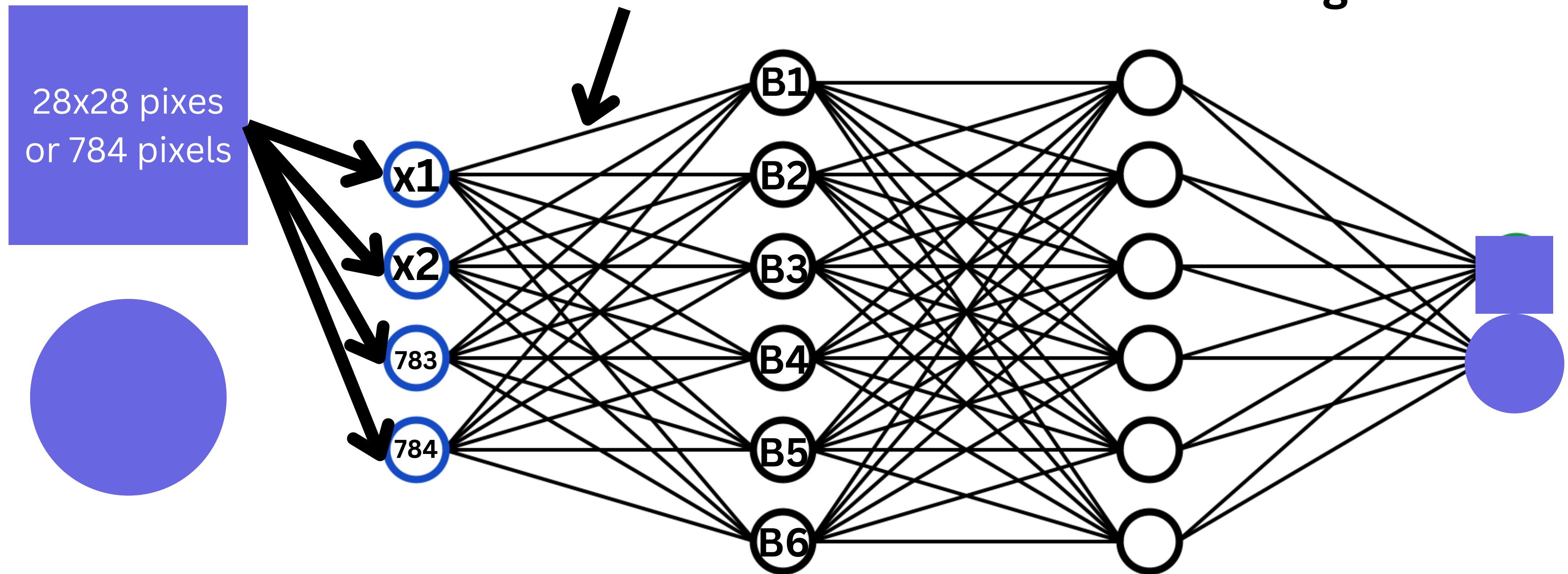


Hidden Layers: perform most of the computation for the network

Neurons are connected to next layer through channels



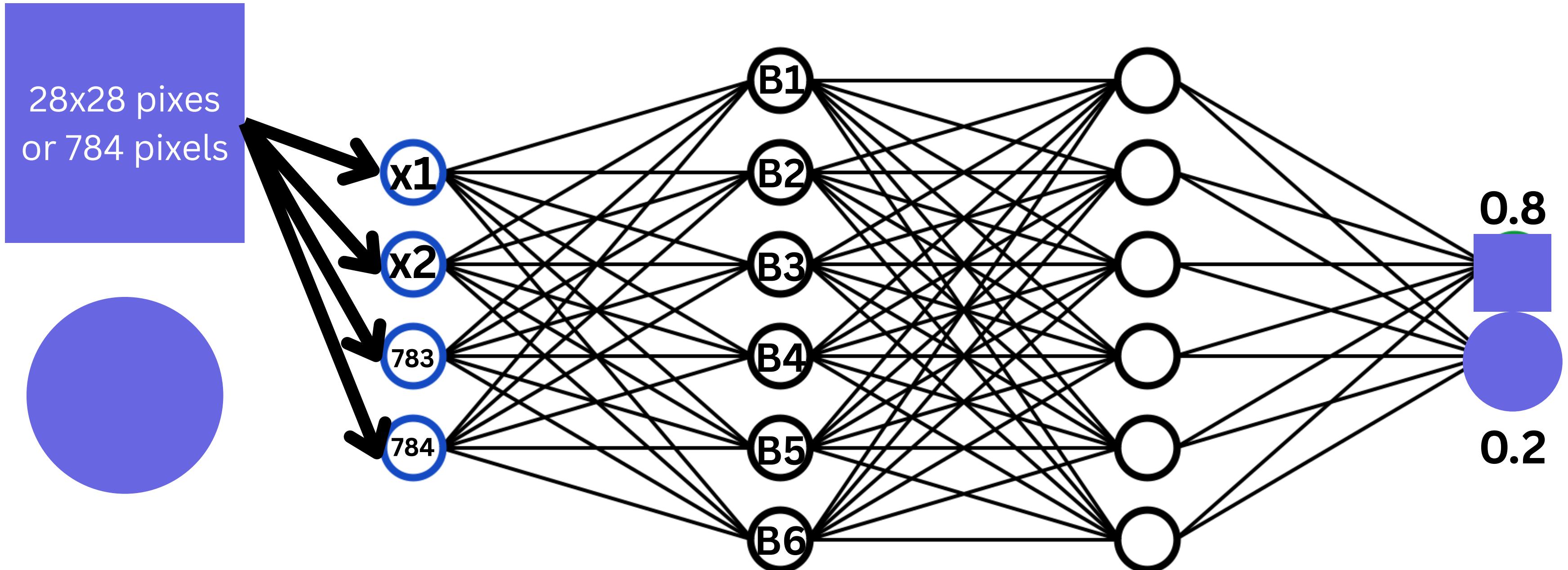
Each pixel is fed as input to each neuron of the first layer



$$(X_1 * 0.4 + X_2 * 0.6) + B_1$$

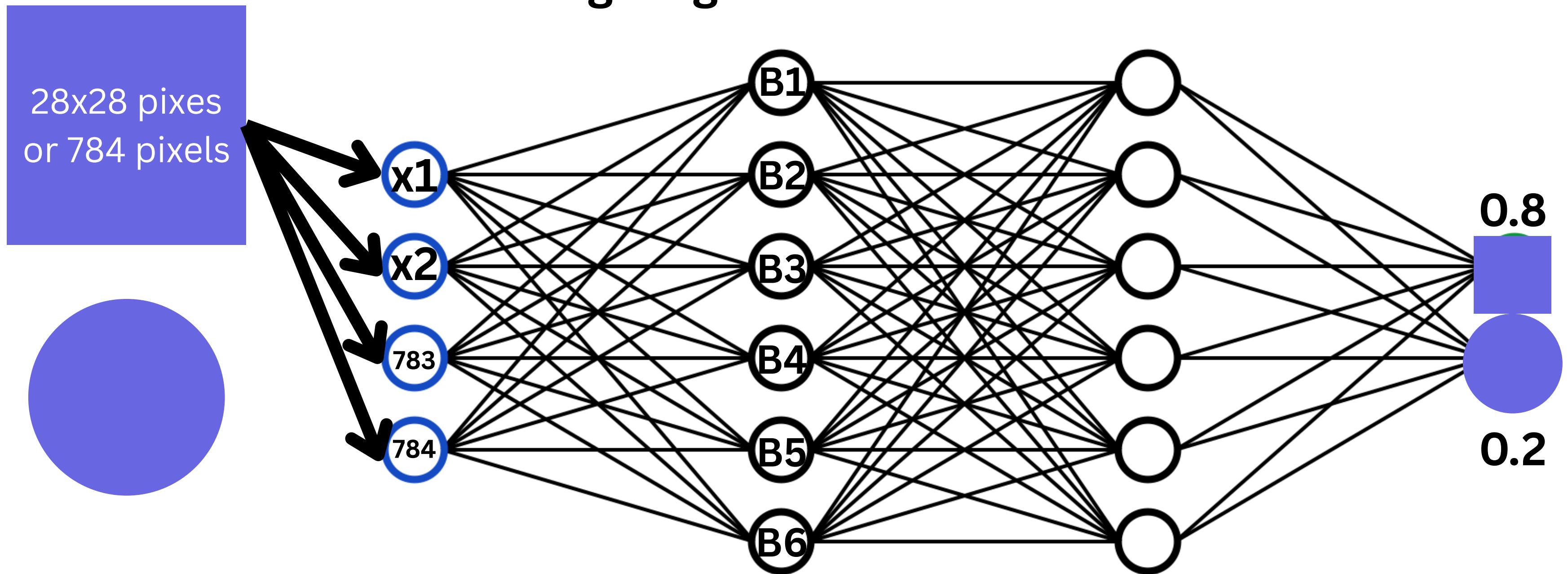
Forward Propagation → activation function to check

Does a check through activation function to
see if the cell can be activated or not



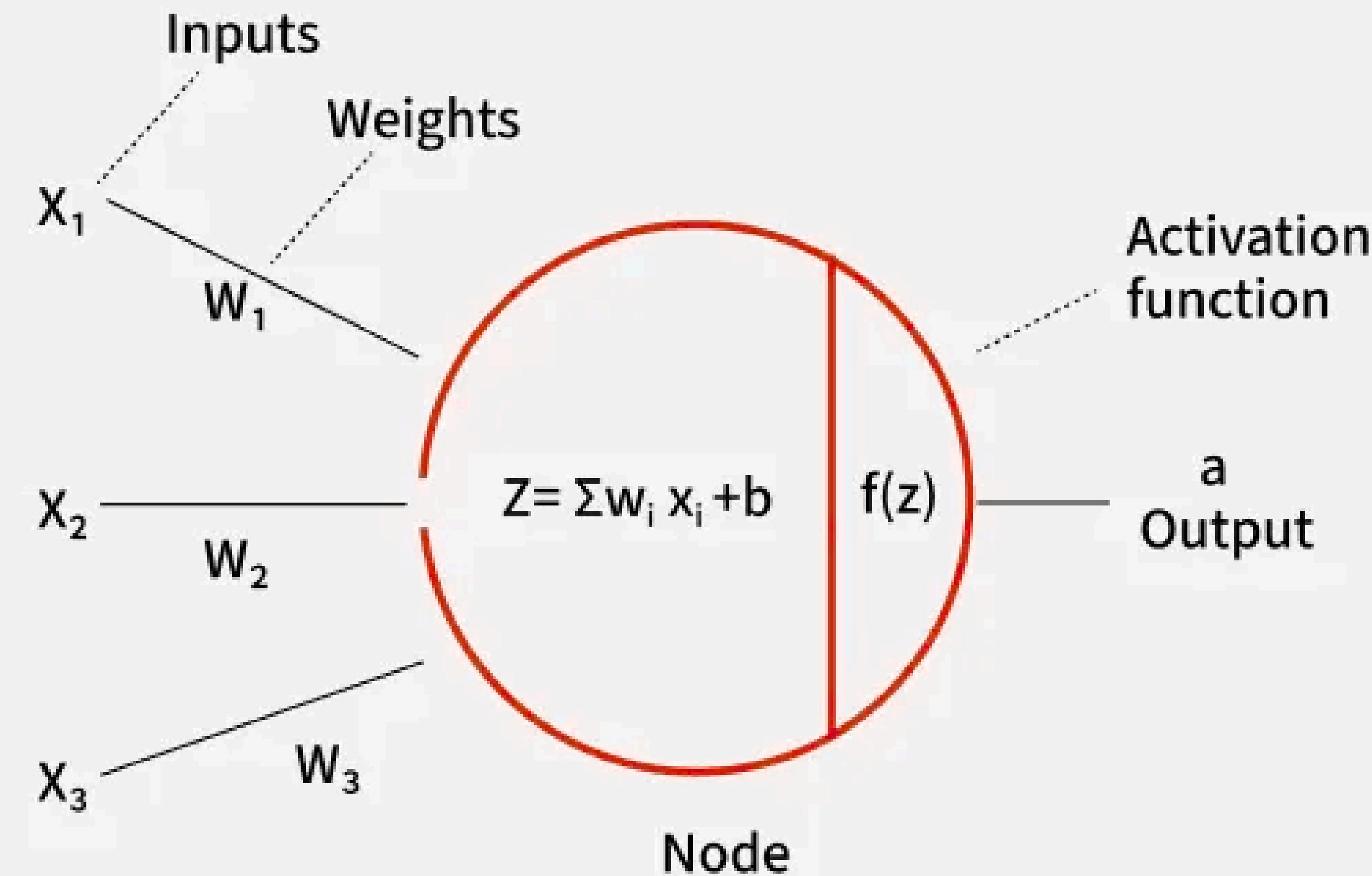
$$P(y=1|x) = \frac{1}{1 + e^{-(\sum w x + b)}}$$

Since the output is wrong the model does back propagation and adjusts the values and keeps doing it again when the results are correct



$$P(y=1|x) = \frac{1}{1 + e^{-(\sum w x + b)}}$$

Activation functions in Neural Networks



QUESTIONS AND
FINAL
THOUGHTS!

THANK YOU!