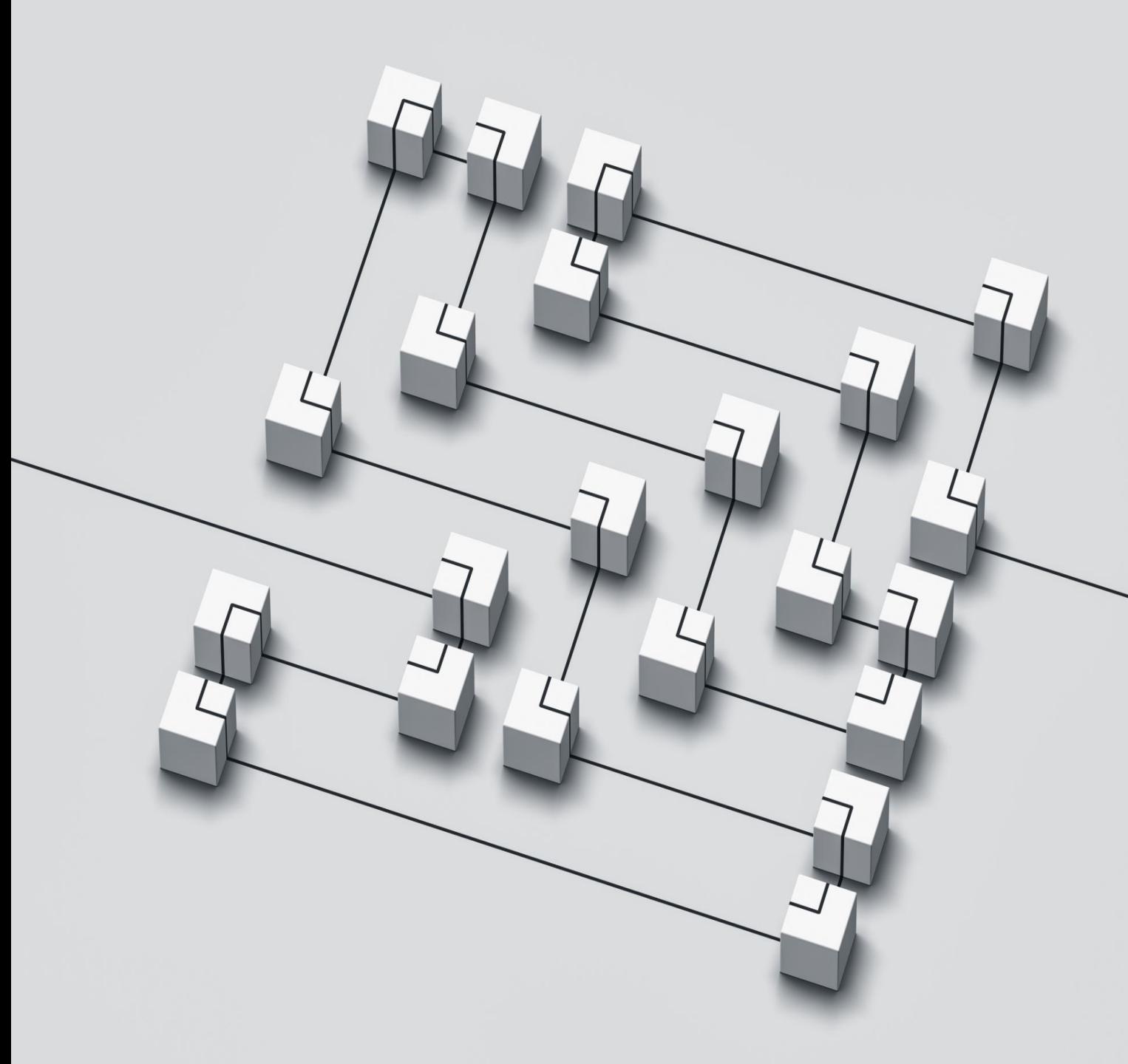


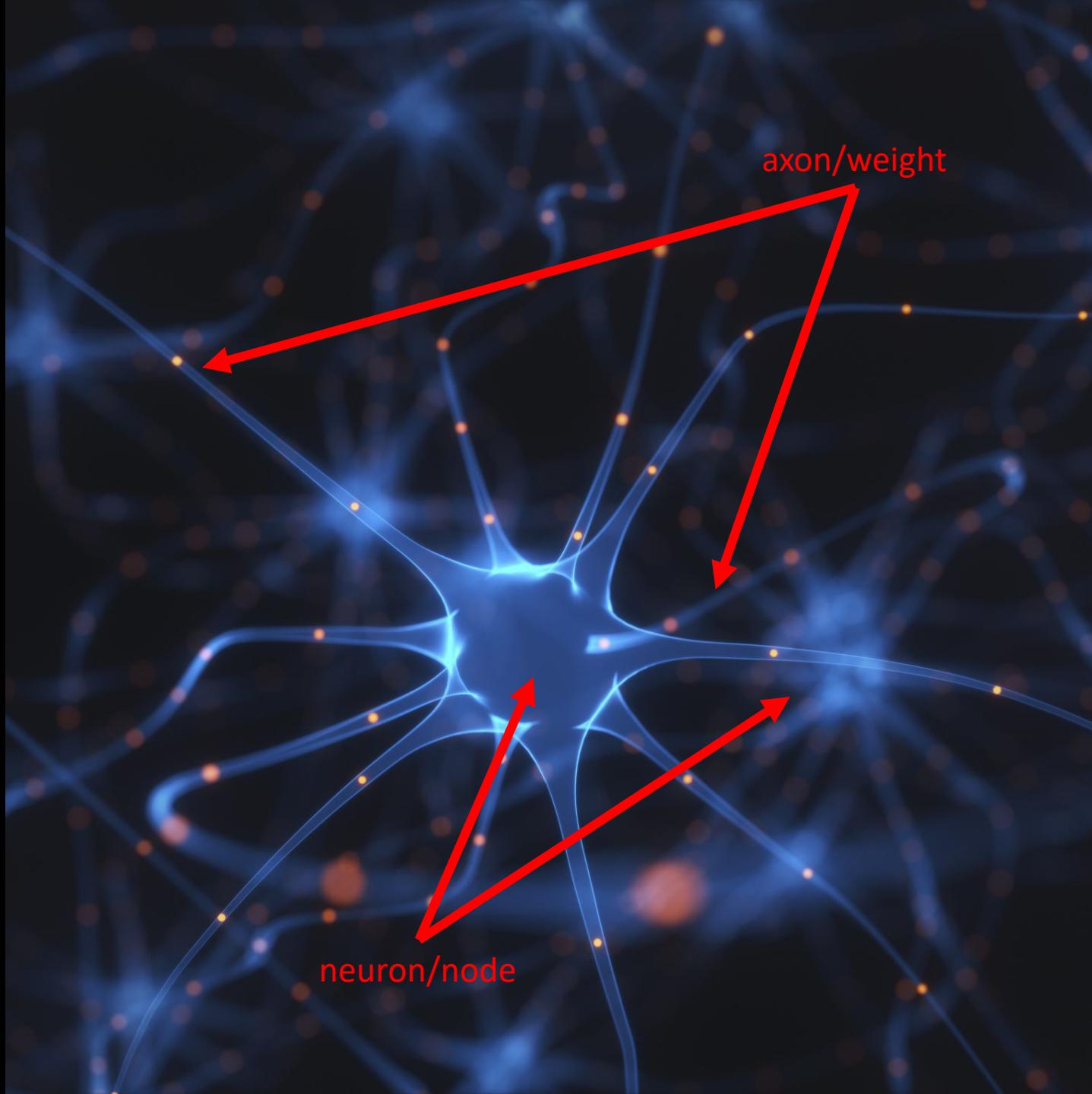
## Machine learning (a very simplified explanation)

- Machine learning is the use of algorithms to build predictive or inferential models.
- Predictive models are models that predict things.
- Inferential models are models that tell you about how things work.

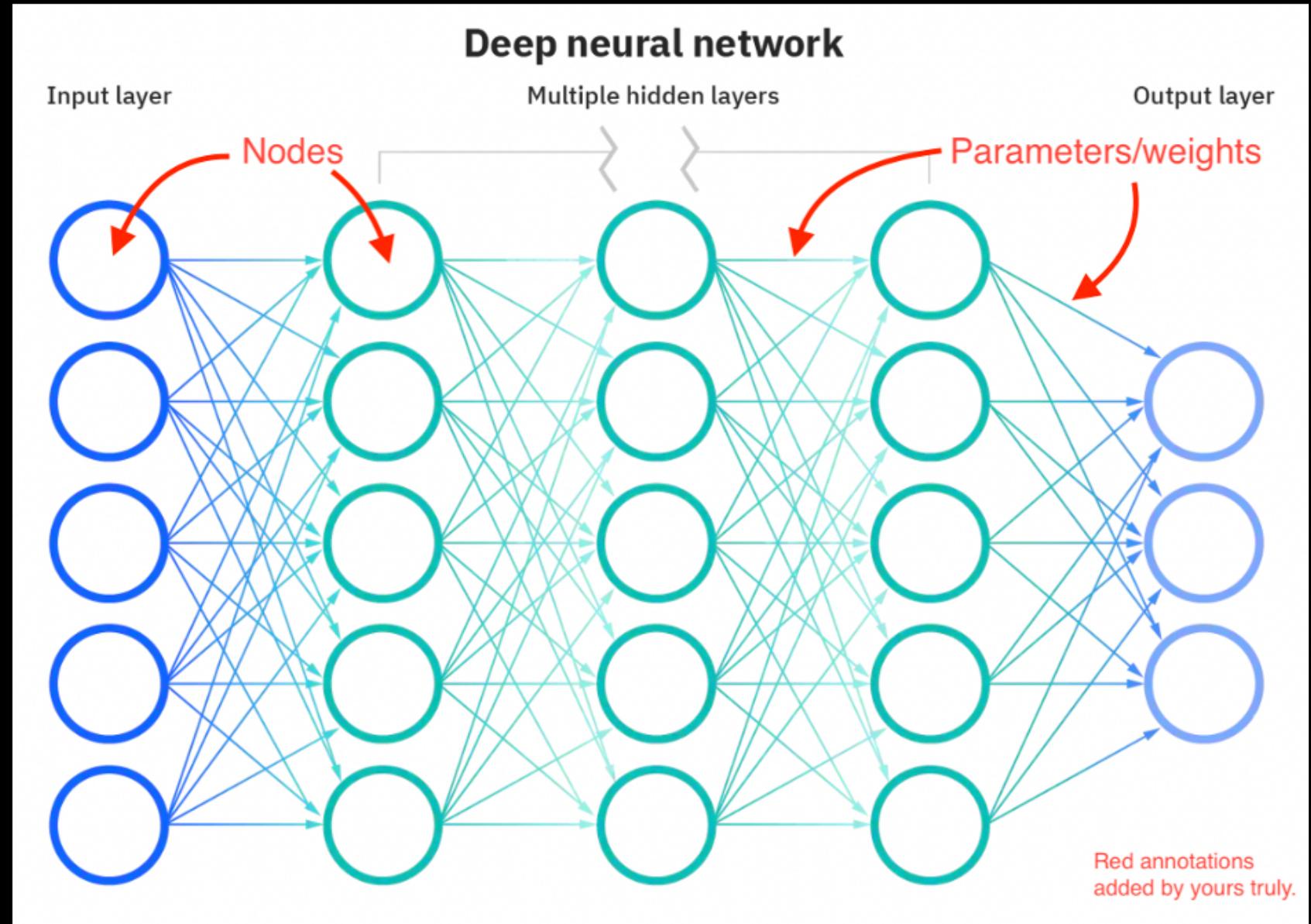


# Neural networks

- Neural networks are a category of algorithms that we can use to do machine learning. They are made of neurons (also called nodes), which are connected by axons (called weights, or parameters)

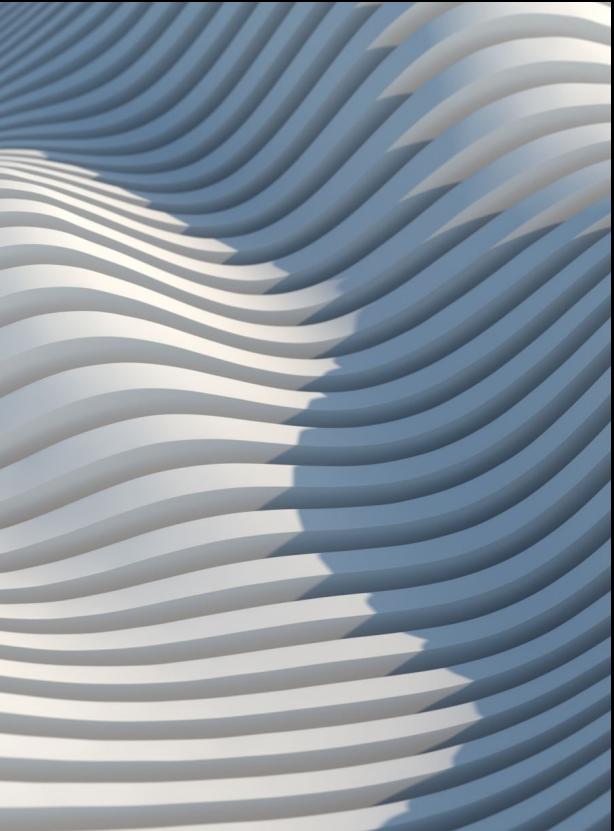


# Neural network diagram (IBM)



# Transformers

- Transformers are a type of neural network architecture which implements a method called self-attention to learn the associations between different parts of its input.



Suppose we want to predict the next word here:

---

“I am a sailor,  
and I am on  
my...”

You've probably seen examples of a model that applied this method to predicting text (see Gmail, or newspaper articles written by GPT-3)

It turns out that this approach doesn't just work on text: It works on anything that you can encode into discrete unique data.



TEXT PROMPT

a teapot in the shape of a peach. a teapot imitating a peach.

AI-GENERATED  
IMAGES



Let's play with a transformer  
model! 😊