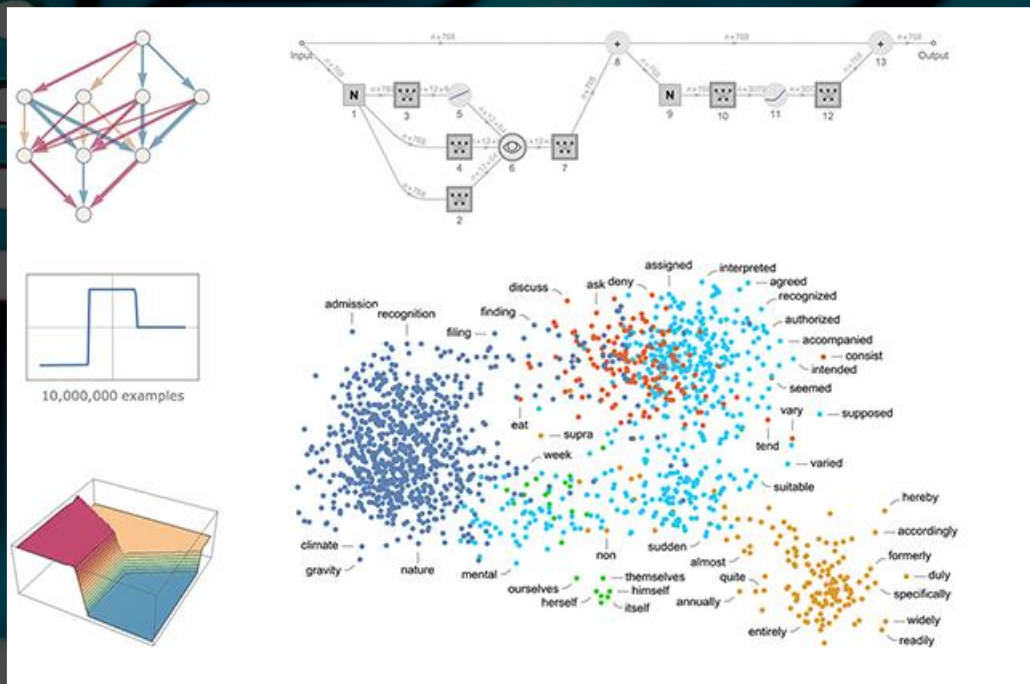
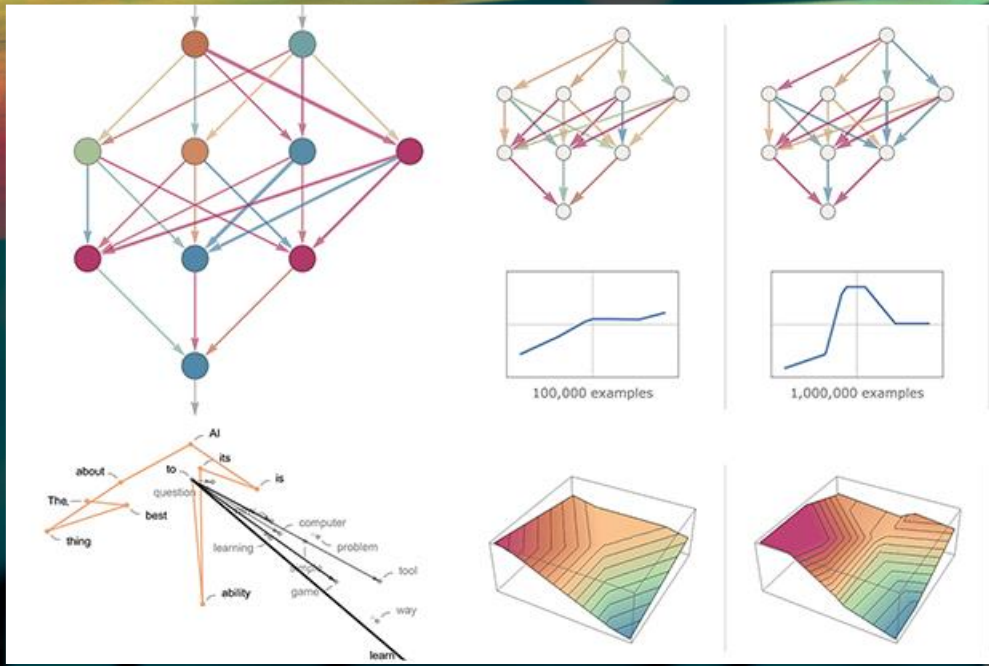


CHATGPT

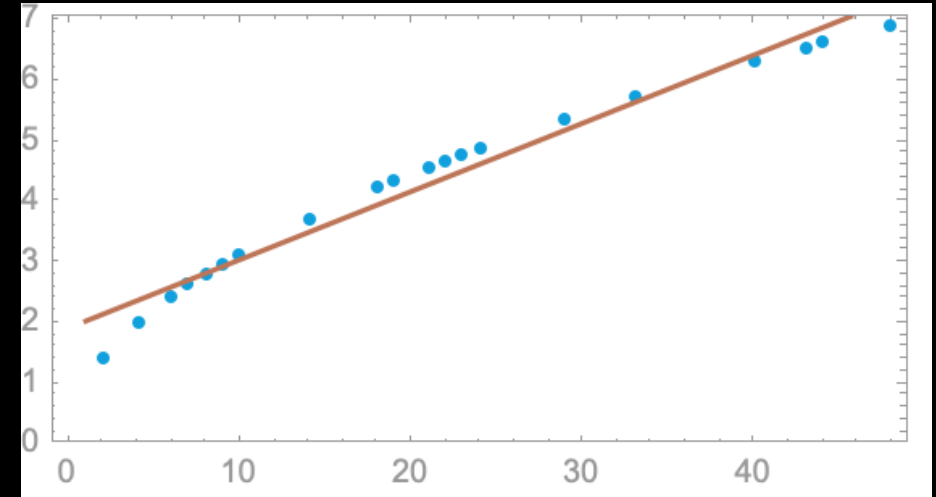
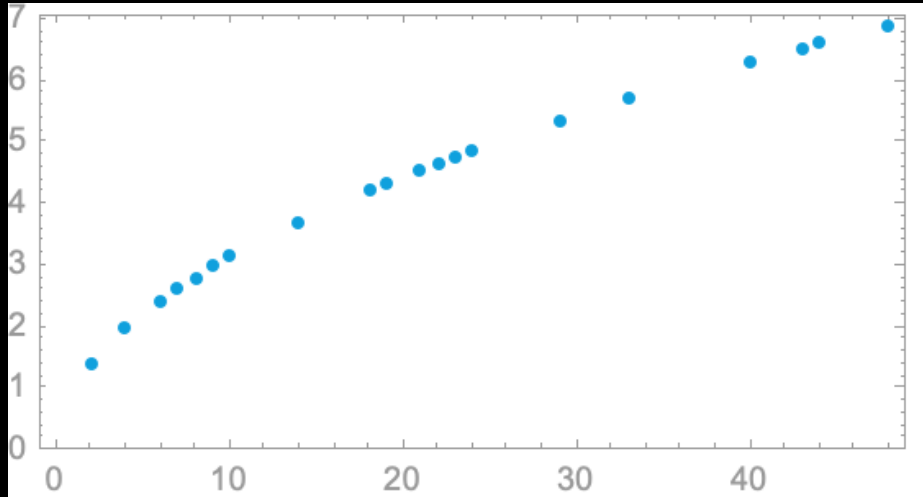
A giant neural net of 175 billion parameters

NEURAL NETWORKS

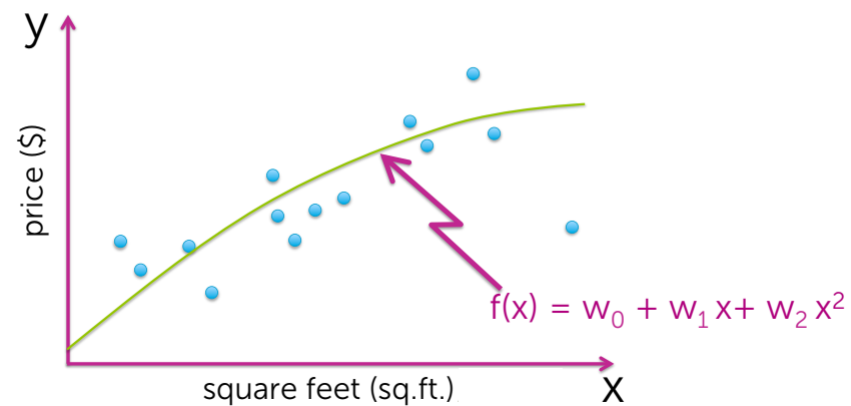


- ChatGPT is basically a neural network of type “Deep Learning Neural Networks”
- It tries to represent natural language in the form of neural network language
- One interesting analogy is to call ChatGPT a “Stochastic Parrot” or “Autocomplete on steroids” – we will see soon why is that?

SIMPLE MODEL

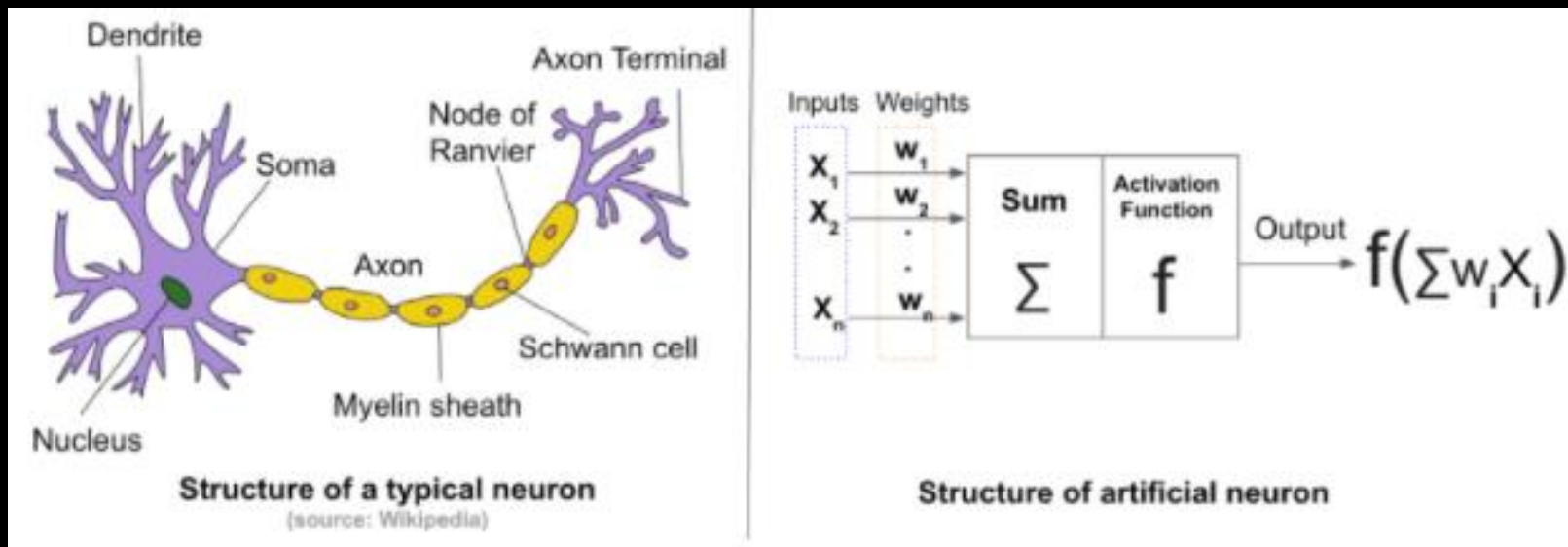


What about a quadratic function?



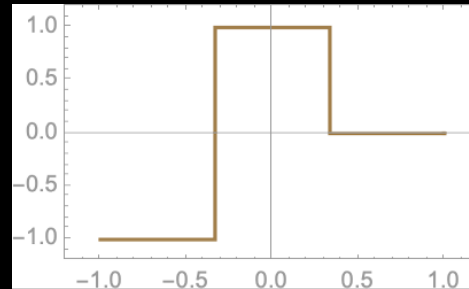
NEURAL NETWORKS

- Neural networks are a type of machine learning algorithm that are inspired by the structure and function of the human brain
- They are used for a wide range of applications, including image recognition, natural language processing, and predictive analytics

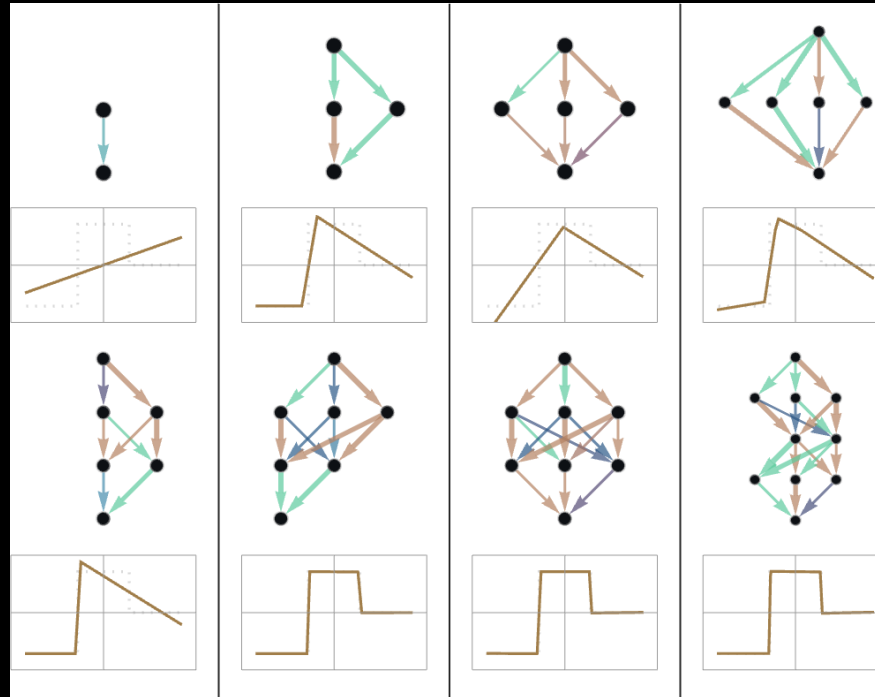


Learning in Neural Nets

Example
function



Learning the
function by
neural net

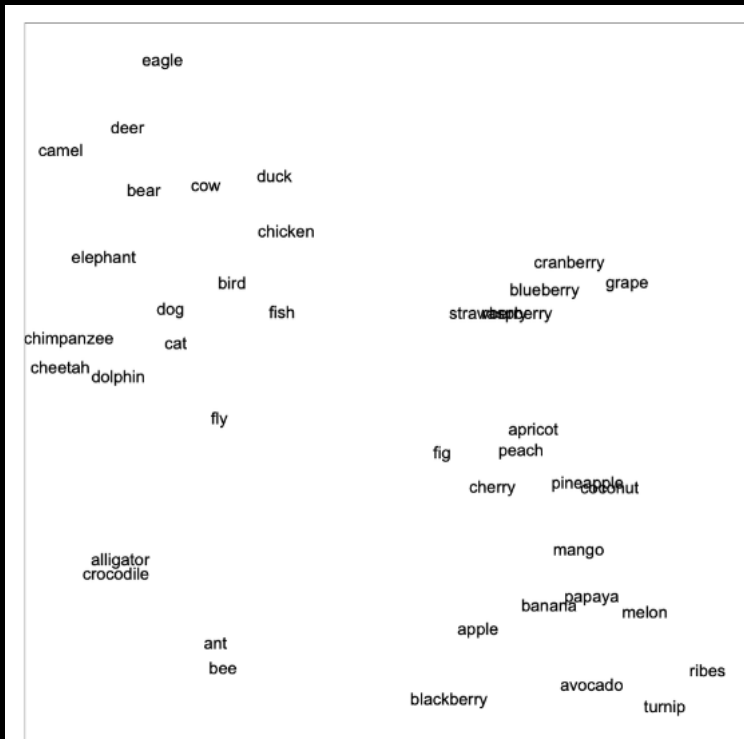


- Learning here means “**Finding weights that make the neural net successfully reproduce the examples given**”
- The basic idea is to supply lots of “**input → output**” examples to “learn from”—and then to try to find weights that will reproduce these examples.
- Learning is measured by “How accurately target function is learnt by a neural network?”

ChatGPT?

Embeddings

- Text is represented as numbers because neural networks work on numbers only



Nearby in meaning

- Roughly 5 billion words from the web
- Alligator is close to crocodile
- One number is assigned to each of the most common 50,000 ENGLISH words

GPT-3 Network

- Specialized neural network trained on 175 billion weights
- Particularly trained for dealing with languages
- Particular architecture is called as "Transformer"

