

What are neural networks?

- Neural networks (NN) are inspired by the biological neural networks that exist inside an animal brain. NN is a series of nodes or neurons that are connected with each other. The connection is used to transmit signals with different weights. The input neurons are real numbers, these numbers are transmitted into the network and each neuron uses an algorithm to calculate the weight of the output. This process is repeated until the output neurons, and the result will be neurons with different results, and the neuron with the greatest result is what the network calculated to be the best action.

What are they good for?

- The good thing with neural networks is that it works in a variety of different applications. Such as financial services, forecasting, market research, fraud detection, robotics and many more. The reason is that it only needs inputs that can be represented via a real number, then it will learn and calculate the best possible action.

What algorithms exist?

- Algorithms are used to learn the network and are often referred to as optimization algorithms. These algorithms have different memory usage, speed and precision. These are some important algorithms: Gradient Descent, Newton Method, Conjugate Gradient, Quasi-Newton Method, Levenberg-Marquadt algorithm.

What is deep learning?

- Deep learning is a subcategory of neural networks which adds 1 or more “hidden layers” which are layers with neurons or nodes in-between the input and output layer.

What are they good for?

- You can find deep learning in areas such as Automatic speech recognition, image recognition, Visual art processing, Natural language processing, etc.

What are the most common combinations of networks that are used in deep learning?

- Some of the most common combinations of networks are Feedforward neural network, which is very basic, and data only flows in one direction. Convolutional neural network (CNN) it consists of 1 or more convolutional layers with very few parameters but are very deep, this makes it effective for image recognition.

[https://www.neuraldesigner.com/blog/5 algorithms to train a neural network](https://www.neuraldesigner.com/blog/5-algorithms-to-train-a-neural-network)

https://en.wikipedia.org/wiki/Artificial_neural_network

<https://www.investopedia.com/terms/n/neuralnetwork.asp#toc-types-of-neural-networks>

https://en.wikipedia.org/wiki/Deep_learning

<https://www.educba.com/deep-learning-networks/>