Neural Networks

# Why Neural Networks?

Computers back then -> only good for Fast Arithmetic & be a submissive maid.

Neural networks help them when:

* They can’t formulate an algorithmic solution.
* They can’t get lots of examples.
* They need to pick up structure from existing data.

# What exactly is “Artificial Neural Network”?

Artificial Neural Network is a computational model inspired by central nervous system that is capable of machine learning and pattern recognition. Usually, they are represented by interconnected “neurons”, separated by three “walls” which are:

* Input Neuron,
* Hidden Neuron, and
* Output Neuron

# What made those three Neurons different?

* Input Neuron: Just like its name, input neuron is the one that receive input. On human, this can be represented by nose, eyes, ears, or even tongue.
* Hidden Neuron: Hidden Neuron do all the works. This neuron is the one that calculate stuffs and shits. If we were to represent hidden neuron to human body, it would be brain system. Brain calculates all the things that came from the “input neuron” and calculate what’s best to do base on those inputs.
* Output Neuron: This will be the final result of calculation. This is what we do after our brain swiftly process every input.

# How do they work?

Because explaining with words are too complicated, I’ll just drop an example.

*Situation: You are going to cross the road. Of course you know what the inputs will be, and what to process, right? I’m not gonna write it. The output condition will be Cross it, or don’t Cross it.*

I1 = Input from eyes (Is there any car? Y/N)

I2 = Input from ears (Can you hear any car? Y/N)

Activate H1 = I1 ^ I2

O1 = Cross

O2 = Don’t cross

The actual things could be much much much more complex, but you get the gist.