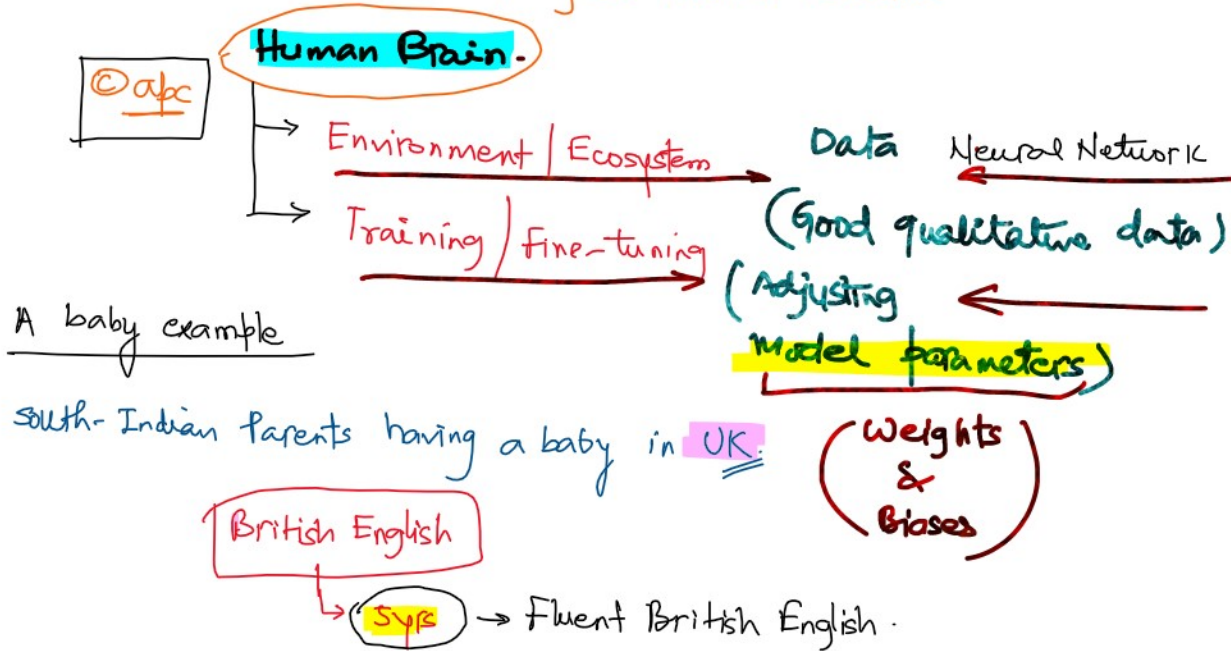# Connecting dots b/w Human Brain & Neural Network

24 November 2024   20:01

What's the intuition behind Neural Network ?

What's the most sophisticated algorithm in the world?

& ↓ complex   thing ⟷ Neural Network.

Human Brain.

©abc

→ Environment | Ecosystem → Data   Neural Network
→ Training | Fine-tuning → (Good qualitative data)
(Adjusting ←
Model parameters)

A baby example

South-Indian Parents having a baby in UK.

(Weights & Biases)

British English

↳ (5yrs) → Fluent British English.

(Due to environment / surroundings)

Car-driving / 'learning anything new'
- Directly going behind the steering
- Enroll yourself to car driving school

Swimming
French | German
Fly an airplane

(Cat) Baby, its a cat.
↓
A baby observes cat's face,

A baby observes ==cat's face,== and try to learn ==edges== and ==patterns== of cat thru their eyes
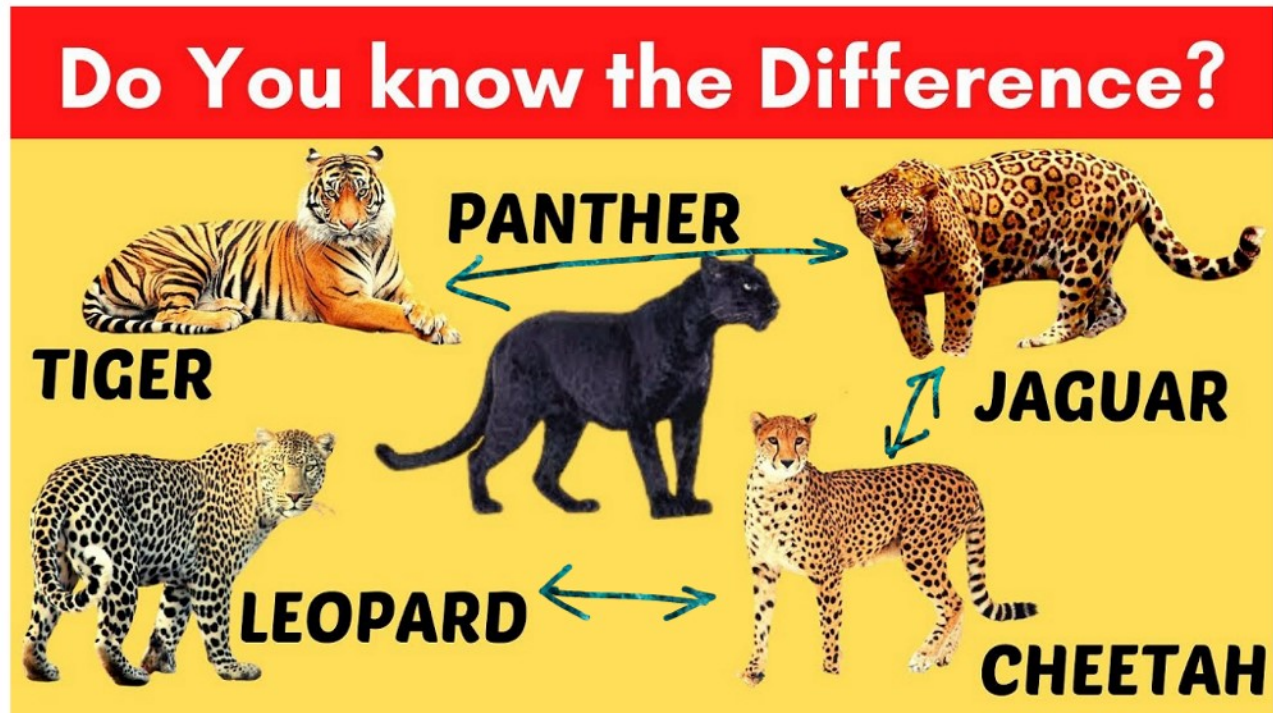

cat

cat

cat

→ CAT

→ (Dog)

→ Baby, what's this??

→ (Flamingo)

— is a rare bird

<u>Note:</u> Most of us are not able to recognize this bird

<u>Note:</u> Most g us are not able to recognize this bird as there is <mark>limited training</mark> or <mark>no training</mark>
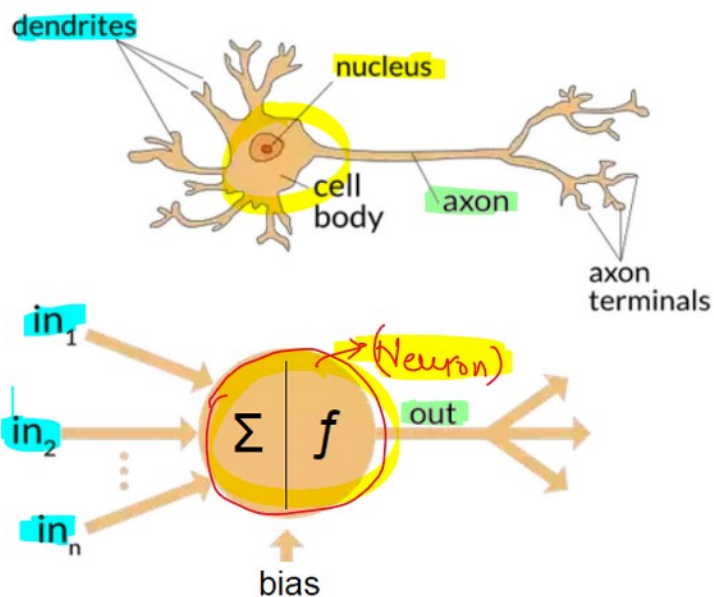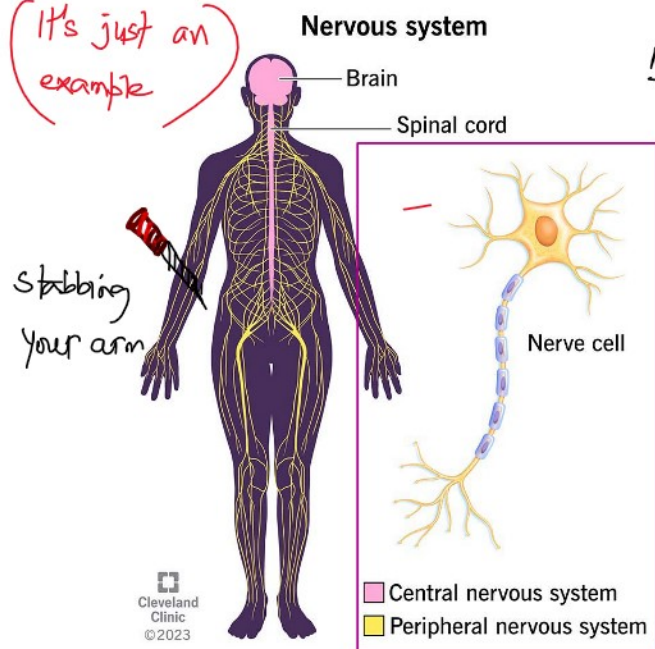

How does your brain respond to the pain??

How does your brain respond to pain? - Karen D. Davis

To feel the pain, nociceptors transmit pain signal from periphery to the brain.

(It's just an example)

Nervous system

Brain

Spinal cord

Stabbing your arm

Nerve cell

Cleveland Clinic ©2023

☐ Central nervous system
☐ Peripheral nervous system

MARCOS

dendrites

nucleus

cell body

axon

axon terminals

in_1

in_2

in_n

$\Sigma \mid f$ → (Neuron)

out

bias

Neural N/w Simple model

Just for reference

Biological Nervous System	Artificial Neural Network
Neuron	Processor Element
Dendrite	Addition Function
Cell Body	Transfer Function
Axons	Artificial Neuron Outputs
Synapses	Weights

How Pain Works ©2007 HowStuffWorks

→ Human Brain

~

(biological) neuron

Artificial neuron

Biological neuron
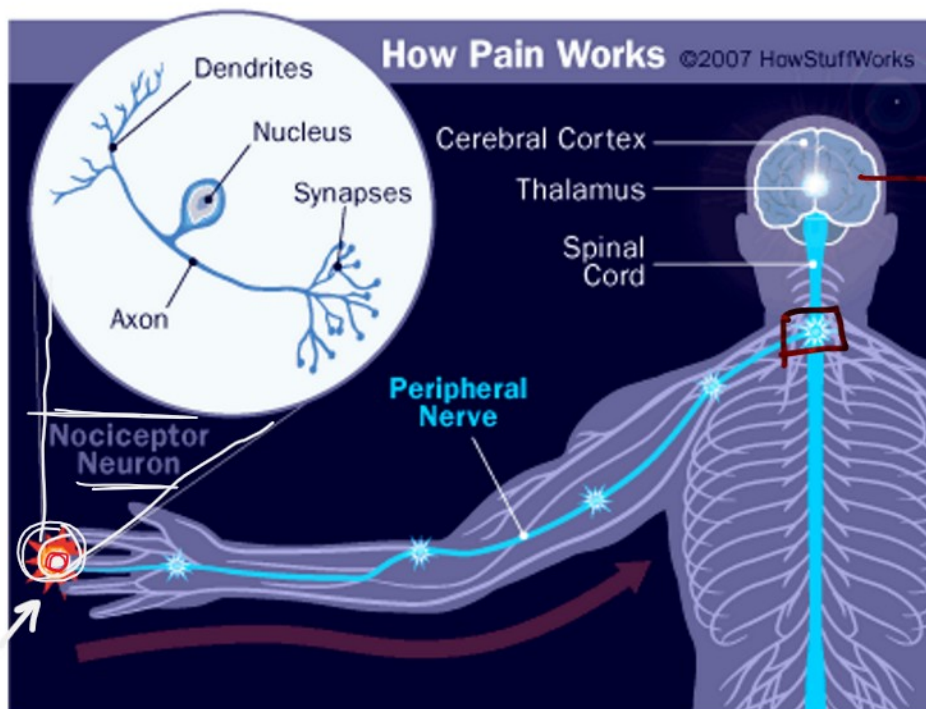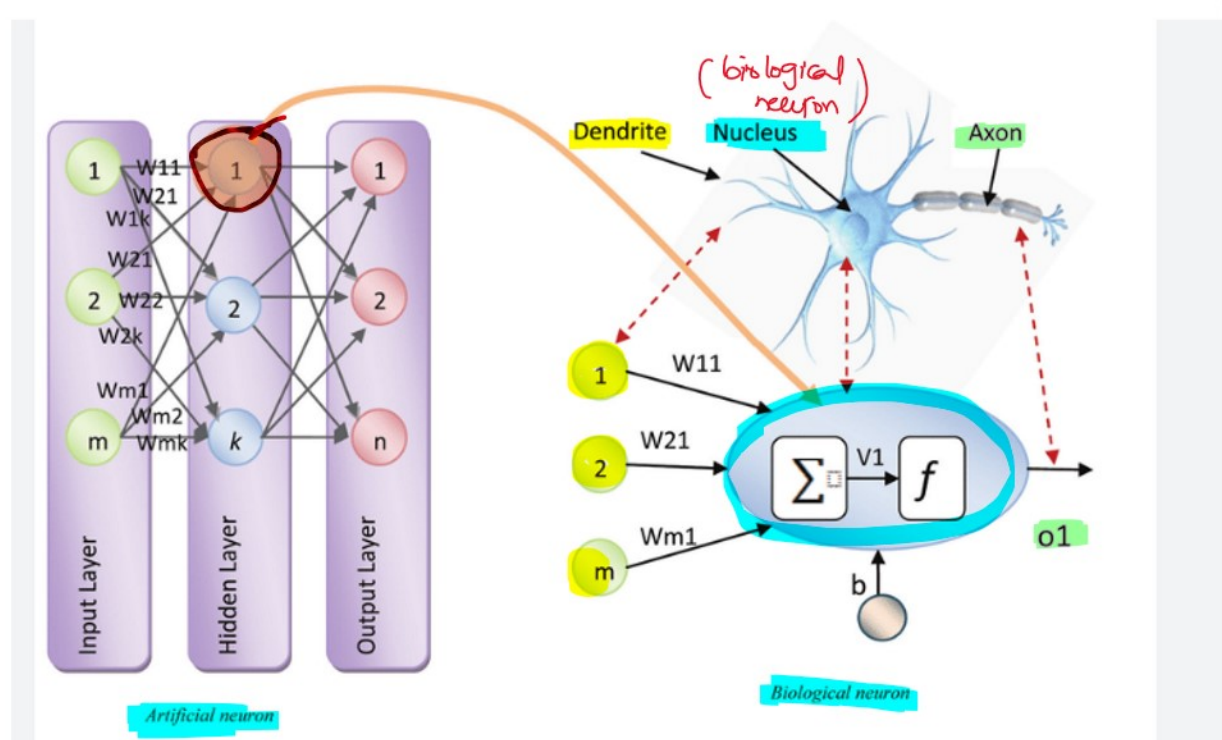
Very simple Neural Network Architecture

[Khan Academy Calculus](#)