Neuromorphic Computing

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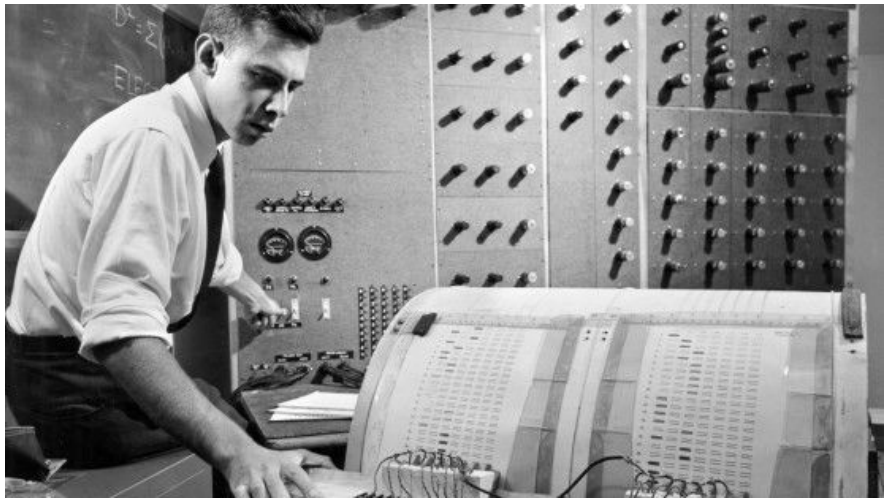
History - Who and When It Was Conceived

Who discovered Neuromorphic computing?

In 1958, the US navy developed a perceptron which is essentially a single layer neural network. This was developed to interpret data much like the human brain. This was the first step towards what is now known as neuromorphic computing or neuromorphic engineering.



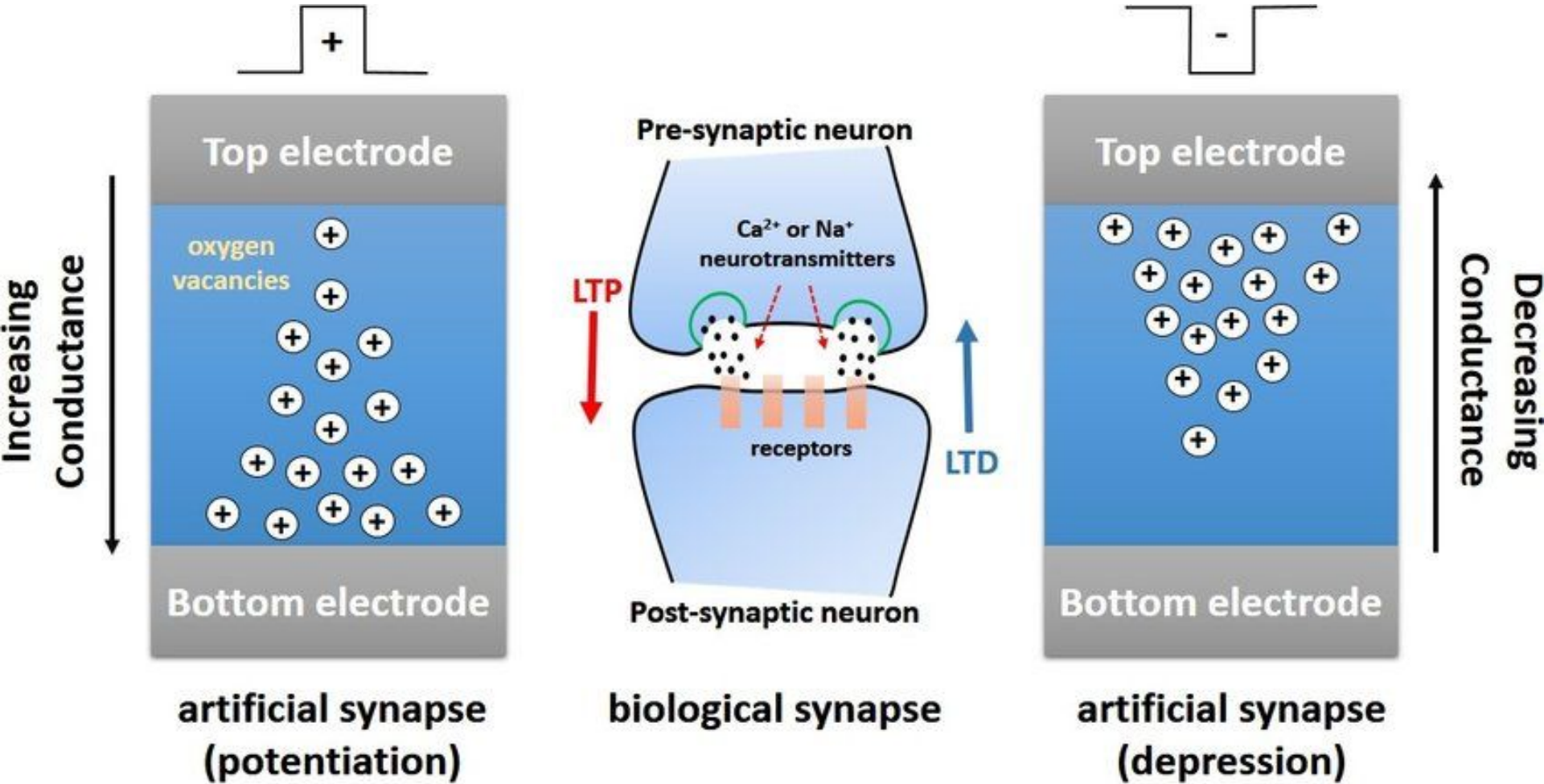
Early perceptron

History - Who and When It Was Conceived

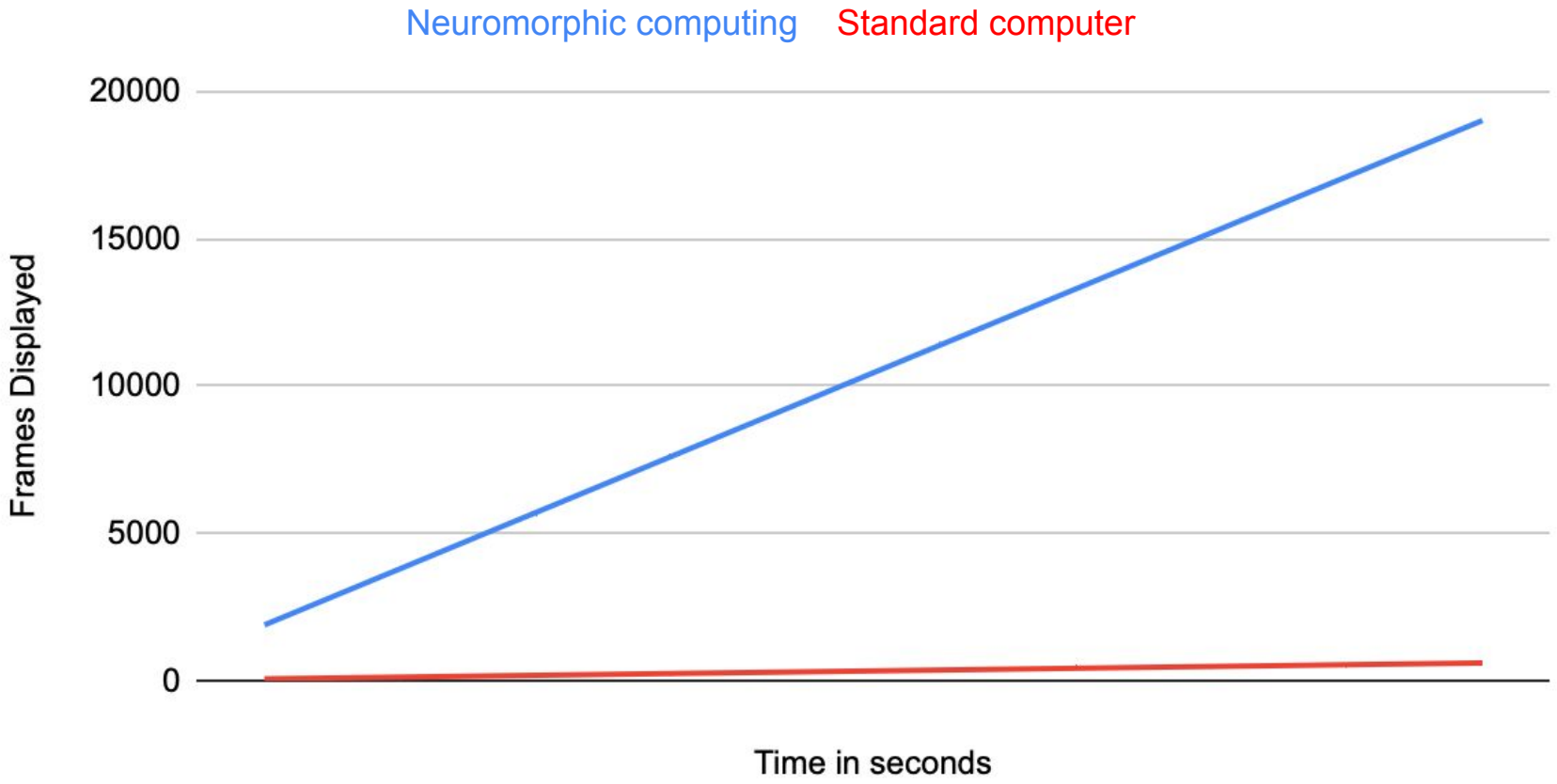
Carver Mead

In the 1980’s a professor named Carver Mead first proposed the idea of neuromorphic computing. He used the idea of biological synapses, where a neuron sends a message to another neuron. He applied this and developed a model where ions flow to two electrodes(Bottom and Top) much like how neurotransmitters flow between either neuron in biological synapses.

Neuromorphic Computing VS. Biological Synapses



Amount of Frames Per Second (Fps): Neuromorphic computing vs. a Standard Computer



Plan and Implementation - Who or What Will It Impact

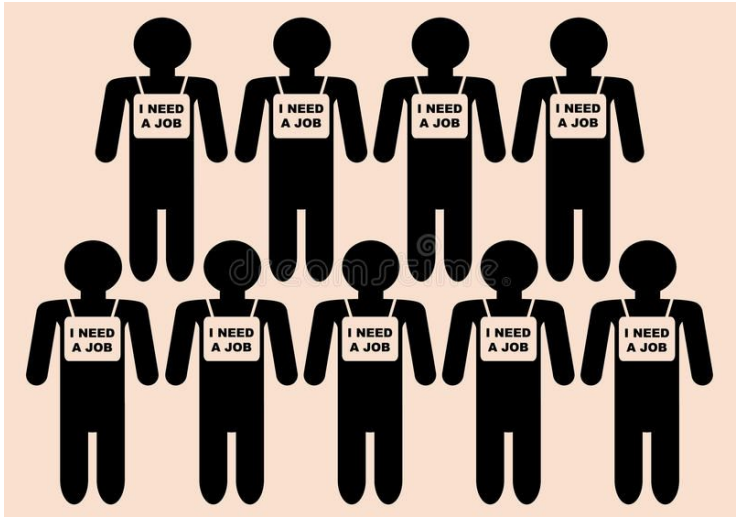
This could impact many jobs especially those that are of low technical difficulty. The ability to process information quickly and efficiently could threaten employment of people. However, it could take the danger out of many jobs that use people. It will especially affect those who work in assembly lines due to its quick nature and ability to process and correct mistakes. It could also advance companies allowing them to hold more data and process data quickly and accurately.

Pros

Neuromorphic engineering could create an even more efficient and compact computer than the ones we have today, condensing many servers into just one chip. The ability to process information just as fast as a human brain could create for extremely advanced technology to be created and even human like AI to be developed. This could greatly revolutionize industries creating greater societal advancement.

Cons

With this new technology there could be mass amounts of unemployment. Because of how efficient and smart it is it could completely take over majority of jobs even those that require skill. This advancement could cause a great mass unemployment, effecting even those who have gone through extensive training to be able to perform their jobs.



Summary

I think neuromorphic computing is a good thing. The advancement that this technology could potentially cause is unimaginable. Our industries, businesses, etc will be faster, more reliable, and smarter. The chance of mass unemployment could also be offset by the possibility of this invention creating more jobs.

References

- What is Neuromorphic Computing by TechTarget
- What the Hell is Perceptron by Sagar Sharma
- What is Neuromorphic Computing and How Could it Impact Enterprise IT by Turn Key Technologies