Neural Networks

Reasons to study neural computation

- To understand how the brain actually works.

– Its very big and very complicated and made of stuff that dies when you poke it around. So we need to use computer simulations.

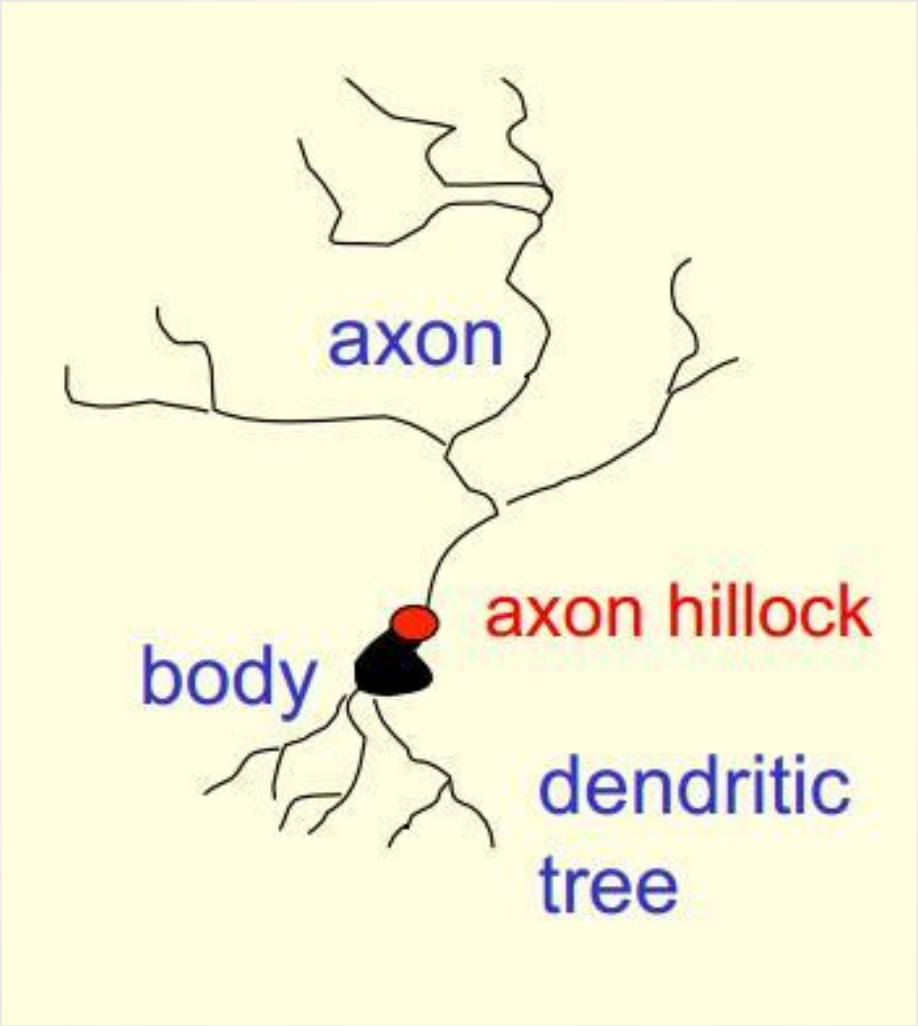
- To understand a style of parallel computation inspired by neurons and their adaptive connections.

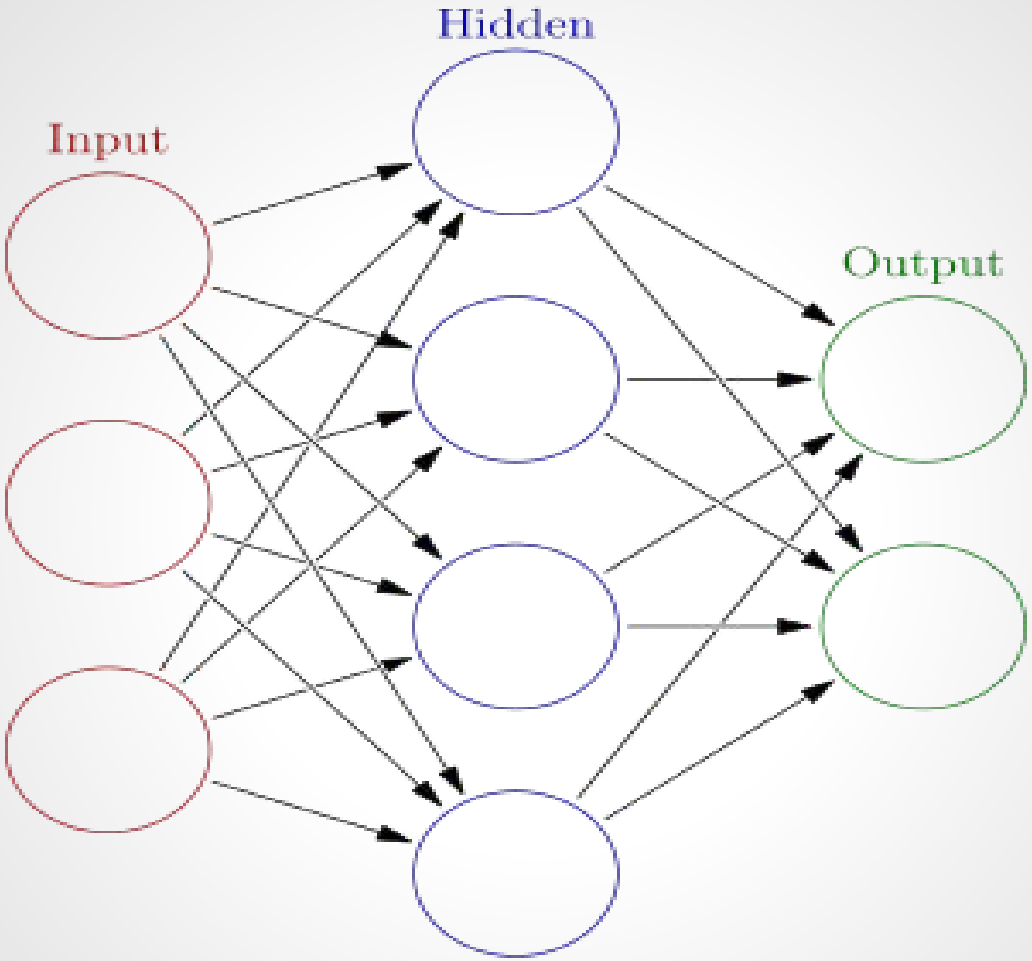
– Very different style from sequential computation.

- should be good for things that brains are good at (e.g. vision)
- Should be bad for things that brains are bad at (e.g. 23 x 71)

- To solve practical problems by using novel learning algorithms inspired by the brain.

– Learning algorithms can be very useful even if they are not how the brain actually works.


axon
axon hillock
body
dendritic
tree


Hidden
Input
Output

Sources

1) Geoffrey Hinton’s Lectures on Coursera.com
2) Prof. Dr. Suresh Sundaram’s lectures for the course Pattern Recognition and Machine Learning, IITG.
3) Images from Google.
4) Suggest to watch Andrew Ng’s lectures for ML on Coursera.com