



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A++’ Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



DEPARTMENT OF COMPUTER APPLICATIONS

23CAT702 – MACHINE LEARNING

II YEAR III SEM

UNIT II – LINEAR MODELS

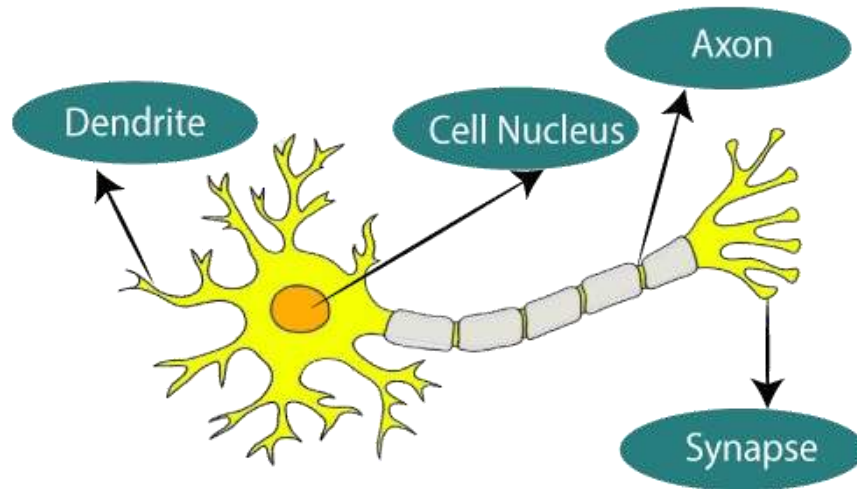
TOPIC 14 – Learning Neural Networks Structures



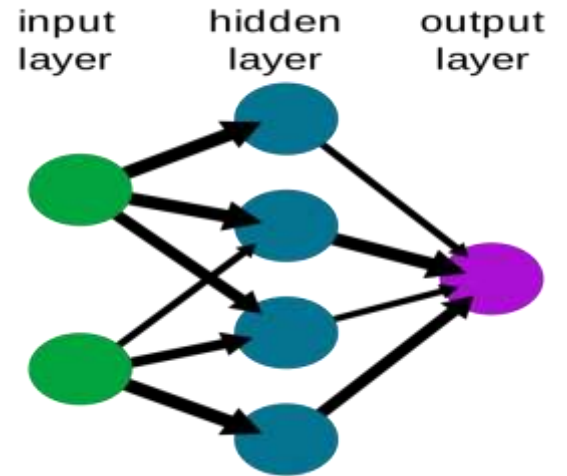


NEURAL NETWORK

Series of algorithms that seek to identify relationships in a data set via a process that mimics how the human brain works.

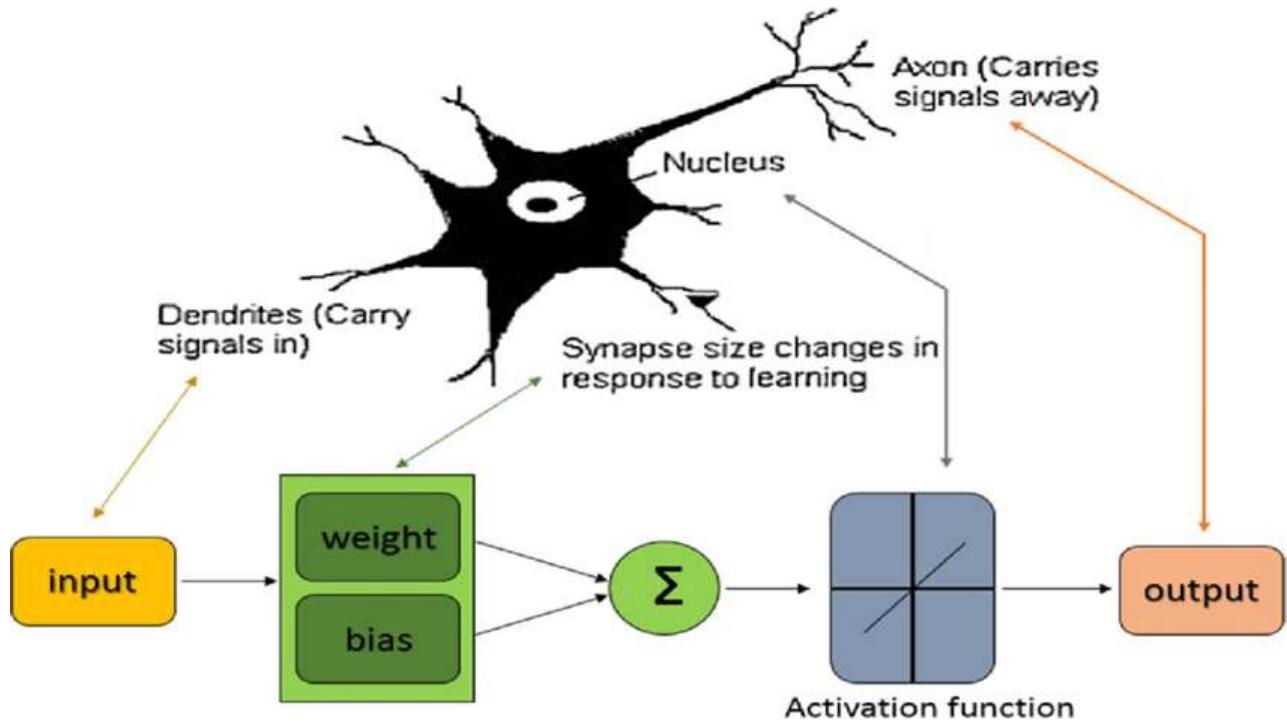


A simple neural network





Neural Networks





The Layered Structure of Neural Networks

For example, when user walk past a bakery, your brain will respond to the aroma of freshly baked bread in stages:

1. Data input: The smell of freshly baked bread
2. Thought: That reminds me of my childhood
3. Decision making: I think I'll buy some of that bread
4. Memory: But I've already eaten lunch
5. Reasoning: Maybe I could have a snack
6. Action: Can I have that bread, please?



How Neural Networks Function Similar to The Human Brain

1. The input layer: the data's entry point into the system
2. The hidden layer: where the information gets processed
3. The output layer: where the system decides how to proceed based on the data



Reference

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2. <https://www.analyticsvidhya.com/>
3. <https://www.geeksforgeeks.org/>
4. <https://www.section.io/engineering-education/using-a-hard-margin-vs-soft-margin-in-support-vector-machines/#support-vector-machines-with-a-soft-margin>