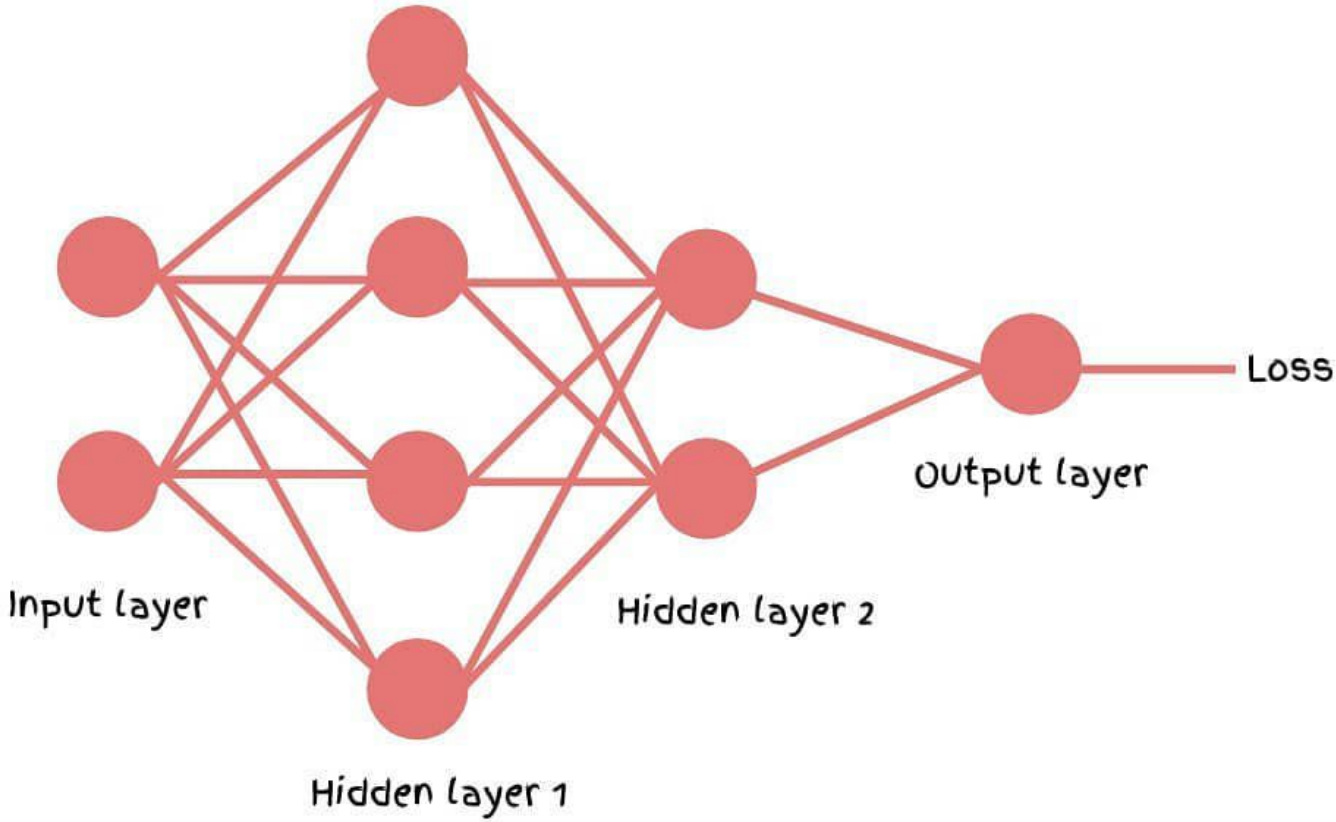
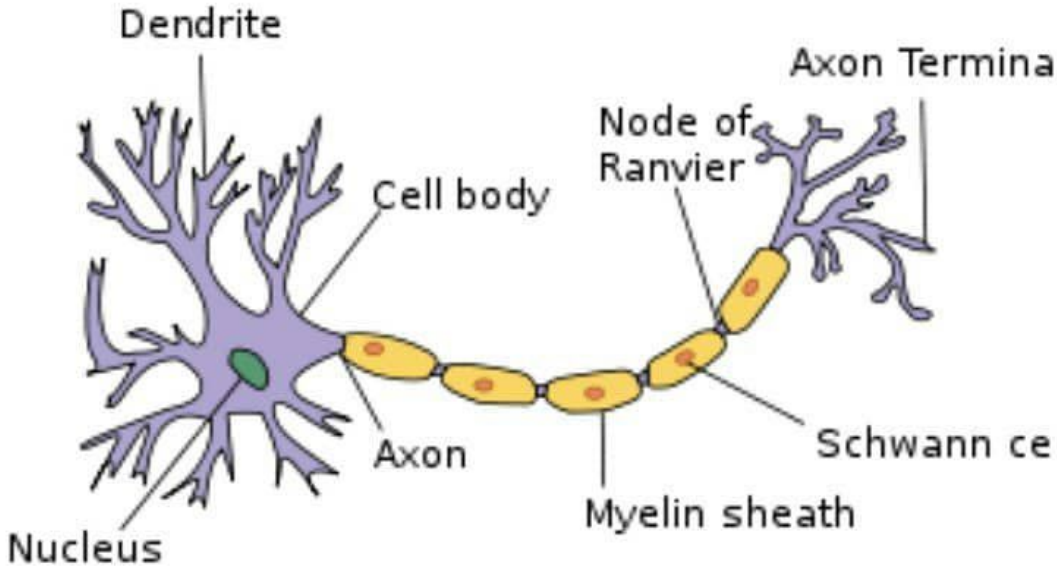
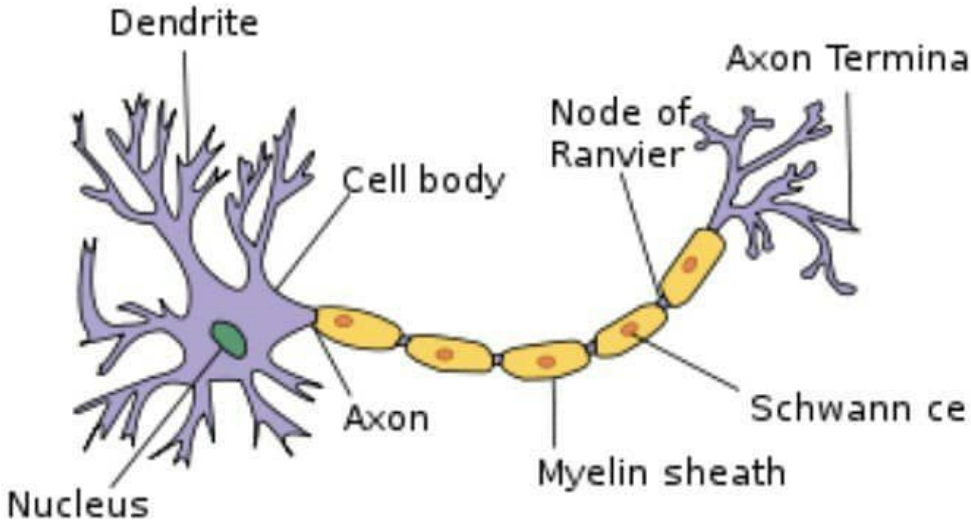


What is Deep Learning??

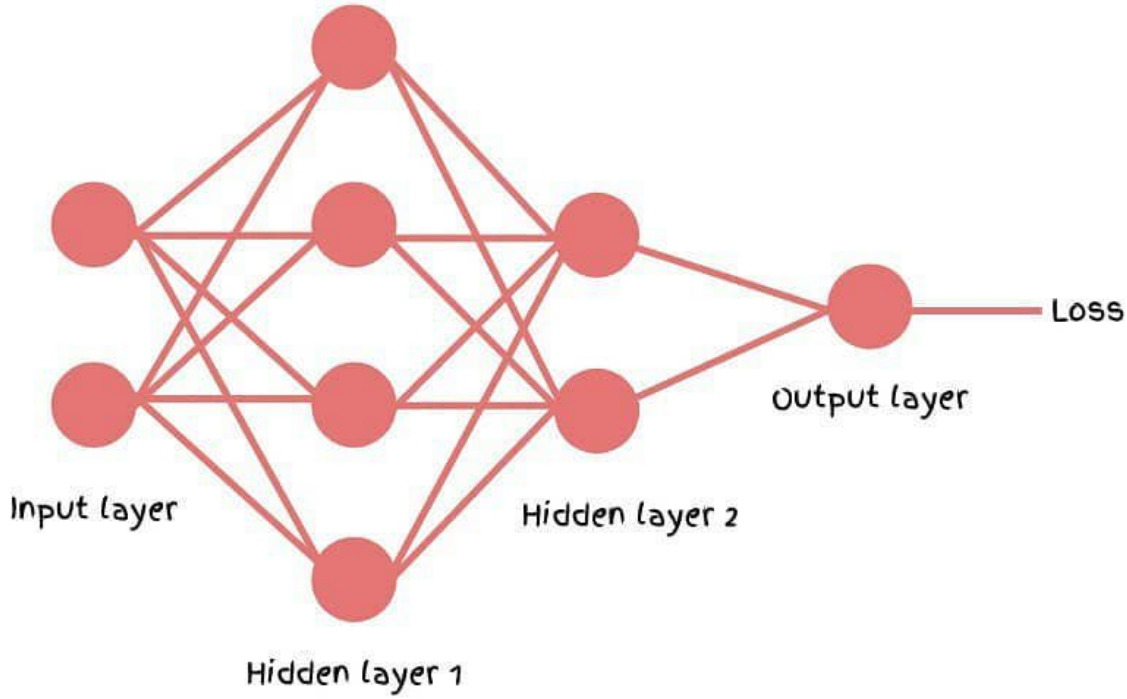
@learn.machinelearning



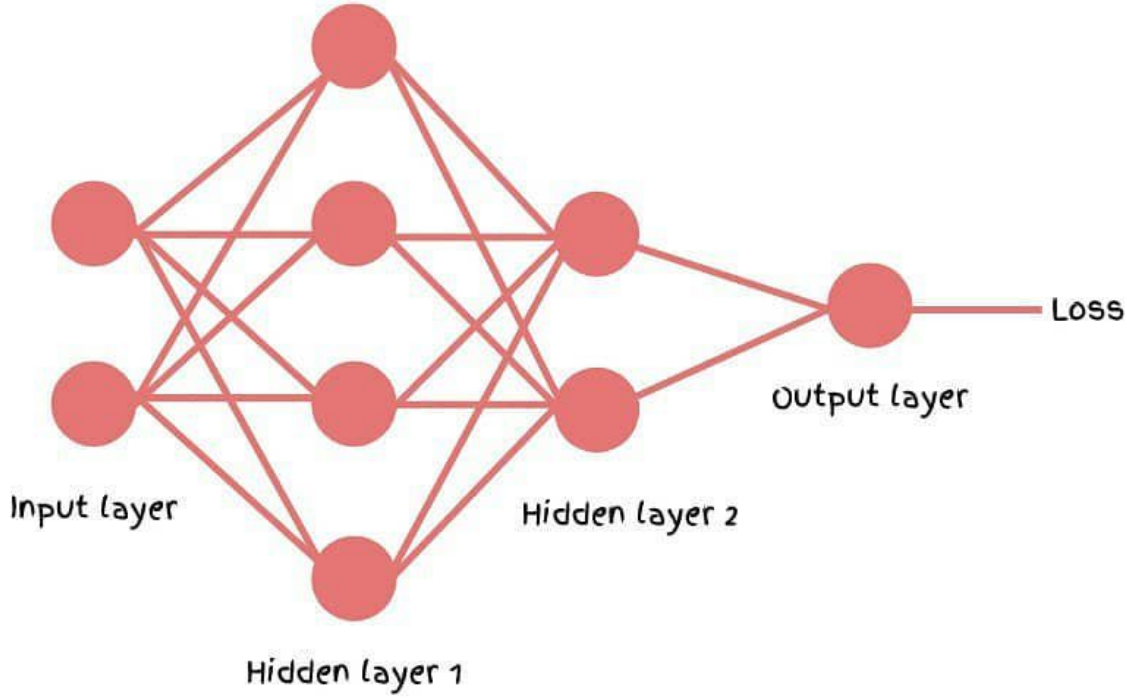
- As we already know We can achieve Artificial intelligence through machine learning.
- Deep learning is a subset of machine learning.
- The algorithms of Deep learning try to imitate the working of human brain in processing data and creating patterns for use in decision making.
- Deep learning, uses a concept of artificial neural networks to carry out the process of machine learning.



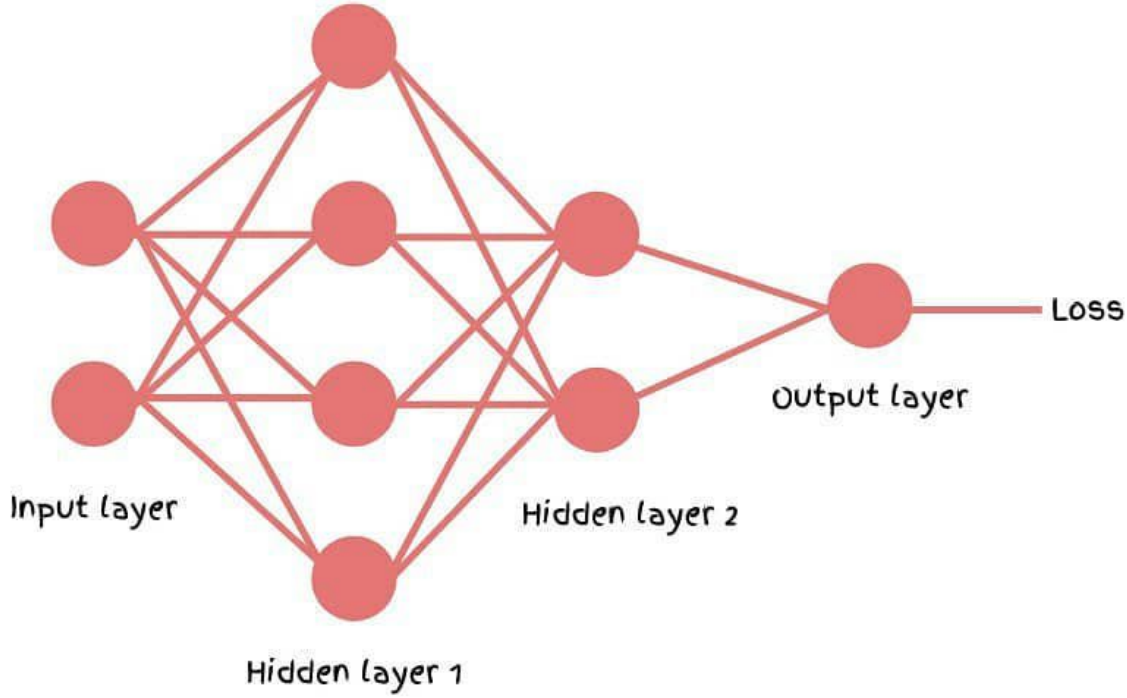
- The artificial neural networks are built like the human brain, with neuron nodes connected together like a web.
- In a human brain there are about 100 billion neurons. Where each neuron connects with other 100000 neighboring neurons.
- In our brains, a neuron has a body, dendrites, and an axon. The signal from one neuron travels down the axon and transfers to the dendrites of the next neuron. That connection where the signal passes is called a synapse.



- Neurons are the main idea behind deep learning algorithms. Lets consider the above structure.
- Where we get input and pass that to the hidden layers.
- The output generated by the hidden layer-1 are passed as a input to hidden layer-2. And this continuous if we have more hidden layers.
- The output of last hidden layer is passed to the output layer and then loss is calculated.



- The biggest advantage of Deep learning is automatic feature extraction.
- It extracts lower level features at starting hidden layers and higher level features at ending layers.
- Automatically learning features at multiple levels of abstraction allow a system to learn complex functions mapping the input to the output directly from data, without depending completely on human-crafted features.



- This example of deep learning model is the feedforward deep network or multilayer perceptron (MLP)
- The Deep in deep learning is many layered network.
- The learning here is Hierarchical Feature Learning, Where every layers learns from previous layers