

# Deep Learning Assignment Questionnaire

1. What is Deep learning and how it is different from traditional Machine learning?
2. Do you think Deep learning is better than Machine learning? If yes state the reason why?
3. Name few Deep Learning frameworks?
4. What is Perceptron? And how does it work?
5. What is neural network? Explain with example and diagram with the elements present in the Neural network?
6. What is the role of weight and bias in neural network?
7. What are the different types of Architectures present in deep learning and state their applications?
8. What are activation functions and their roles?
9. What if we do not use any activation function in neural network?
10. Plot a graph of various types of activation functions and state their uses in hidden layer and output layer in which case?
11. What is dying Relu problem?
12. What is the significance of loss function and cost function? Bifurcate function on the basis of regression and classification problems?
13. What do you understand by forward propagation and backward propagation?
14. What are optimizers and its function? State different types of optimizers and their core fundamentals?
15. Explain the Adam Optimizer algorithm with EMA concept and dynamic learning rate?
16. What are vanishing and exploding gradients and how these problems can be fixed?
17. Can neural network get overfitted? What is Dropout in neural network? And how it avoids overfitting problem?
18. What is weight initialization and types of weight initialization?
19. What techniques should be avoided during weight and bias initialization?
20. What is Early stopping?
21. What is Data normalisation? And different types of Data Normalisation?
22. Why is Deep neural network better than a shallow neural network?
23. What is CNN and explain different layers in CNN?
24. List few applications of CNN?
25. Explain filters, padding and strides in detail?
26. Explain in detail about the tern valid padding and same padding?
27. What is pooling and different types of pooling?
28. Explain the role of flattening and fully connected layer in CNN?
29. What is Data Augmentation?
30. What are the Sequential API and Functional API?