

Deep Learning Question Bank

UNIT 1

Introduction to Deep Learning

1. What are the advantages of deep learning over traditional machine learning methods?
2. Describe the concept of overfitting in deep learning. How can it be prevented?
3. Explain the architecture of a neural network and its components.
4. What are gradient vanishing and exploding problems? How are they mitigated in deep learning?
5. Despite best machine learning algorithms, why is there a need for deep learning algorithms? Give relevant references.
6. Compare different activation functions.
7. Explain the Multivariate chain rule with an example.
8. What is learning rate decay? Explain different types.
9. Discuss the role of regularization in deep learning models.

UNIT 2

Convolutional Neural Networks (CNN)

1. Describe the pooling layer in CNN and its types.
2. How does a ReLU activation function work in a CNN?
3. What is the significance of filter size and stride in a Convolutional layer?
4. Discuss different architectures of CNN, such as AlexNet, VGGNet, and ResNet.
5. Explain the concept of transfer learning in the context of CNN.
6. Explain different applications of CNN.
7. Explain the Convolution layer in CNN.
8. Explain Object detection.
9. Explain the training of CNN.