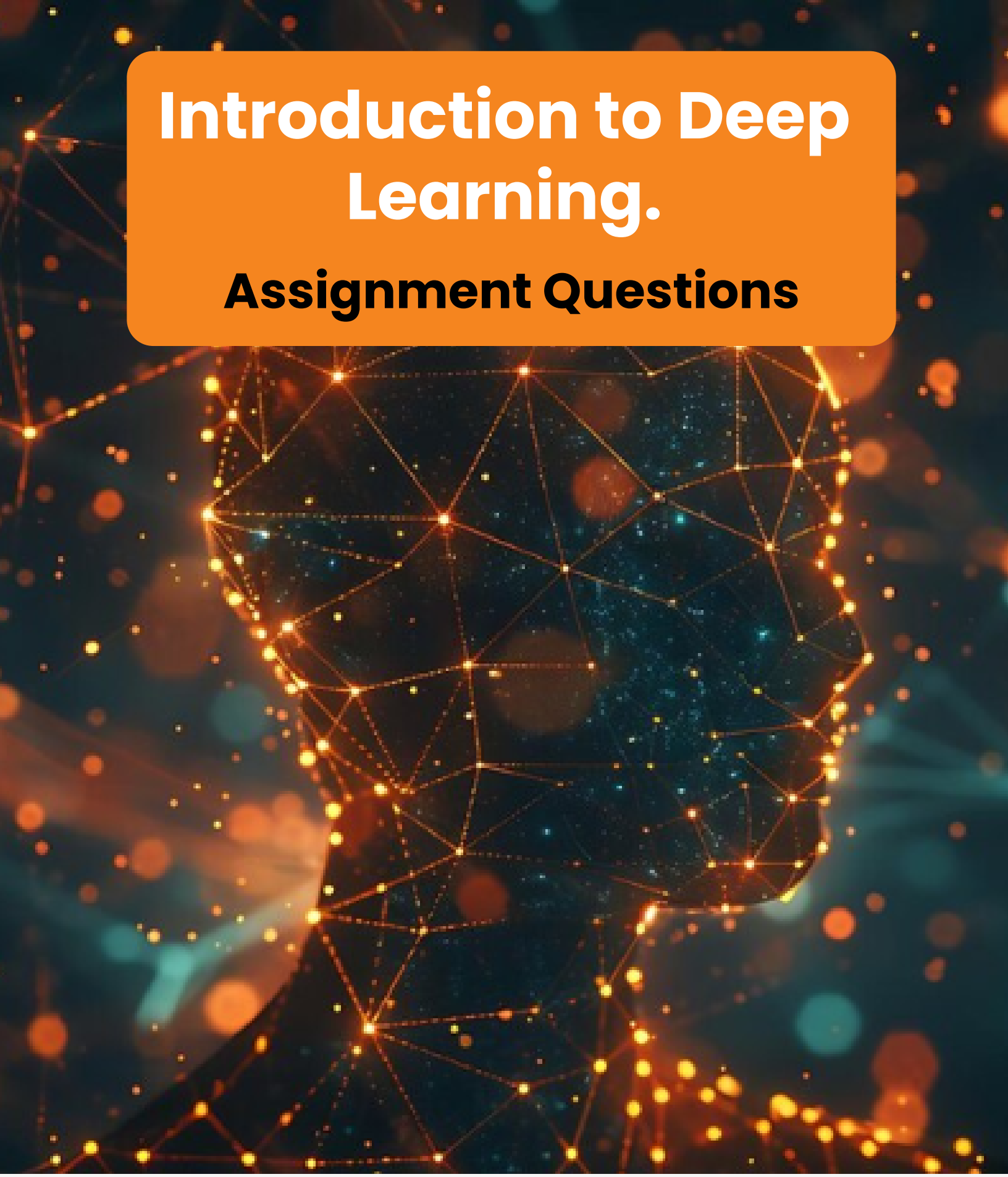
Introduction to Deep Learning.

Assignment Questions



PW SKILLS

Introduction to Deep Learning Assignment questions.

1.Explain what deep learning is and discuss its significance in the broader field of artificial intelligence.

2. List and explain the fundamental components of artificial neural networks. 3.Discuss the roles of neurons, connections, weights, and biases.

4.Illustrate the architecture of an artificial neural network. Provide an example to explain the flow of information through the network.

5.Outline the perceptron learning algorithm. Describe how weights are adjusted during the learning process.

6.Discuss the importance of activation functions in the hidden layers of a multi-layer perceptron. Provide examples of commonly used activation functions

Various Neural Network Architect Overview Assignments

1. Describe the basic structure of a Feedforward Neural Network (FNN). What is the purpose of the activation function?

2 Explain the role of convolutional layers in CNN. Why are pooling layers commonly used, and what do they achieve?

3 What is the key characteristic that differentiates Recurrent Neural Networks (RNNs) from other neural networks? How does an RNN handle sequential data?

4 . Discuss the components of a Long Short-Term Memory (LSTM) network. How does it address the vanishing gradient problem?

5 Describe the roles of the generator and discriminator in a Generative Adversarial Network (GAN). What is the training objective for each?