

## Your grade: 100%

Your latest: **100%** • Your highest: **100%**  
To pass you need at least 80%. We keep your highest score.

Next item →

1. When implementing autoencoders for data compression, which of the following represents the bottleneck layer?

1 / 1 point

- ☒ The hidden layer with the smallest number of neurons
- ☐ The input layer
- ☐ The output layer
- ☐ The activation layer

🟢 Correct

Correct! The bottleneck layer is the hidden layer with the smallest number of neurons, which forces compression of the input data.

2. What are some common encoding and preprocessing steps required for building a movie recommendation system?

1 / 1 point

☒ One-hot encoding categorical variables

🟢 Correct

Correct! One-hot encoding is commonly used to convert categorical variables into numerical format.

☒ Normalizing ratings

🟢 Correct

Correct! Normalizing ratings helps in standardizing the data values.

☐ Applying collaborative filtering

☐ Removing stop words

☒ Creating embedding layers

🟢 Correct

Correct! Embedding layers are used to convert high-dimensional categorical data into a lower-dimensional space.

3. Which component of an autoencoder is responsible for reconstructing the input data?

1 / 1 point

- ☒ Decoder
- ☐ Encoder
- ☐ Activation function
- ☐ Loss function

🟢 Correct

Correct! The decoder part of an autoencoder reconstructs the input data from the encoded representation.

4. Which of the following are challenges associated with Generative Adversarial Networks (GANs)?

1 / 1 point

☒ Mode collapse

🟢 Correct

Correct. Mode collapse is a common issue where the generator produces limited diversity in output.

☐ Credit assignment

☒ Training instability

🟢 Correct

Correct. Training instability is a significant challenge when training GANs.

☒ Vanishing gradients

🟢 Correct

Correct. Vanishing gradients can make it difficult for the generator and discriminator to learn effectively.

☐ Data labeling

5. Which of the following best describes the process of implementing a GAN for training a generator to create a specific shape?

1 / 1 point

- ☒ Setting up the generator and discriminator networks, defining loss functions, and iteratively training both networks
- ☐ Collecting a large labeled dataset, preprocessing the data, and training a supervised learning model
- ☐ Applying data augmentation techniques to expand the dataset and training a convolutional neural network
- ☐ Using reinforcement learning to train an agent to create shapes based on rewards

🟢 Correct

Correct! Implementing a GAN involves setting up both networks, defining loss functions, and iteratively training them.