

Exam : CAIS

**Title : Certified Artificial
Intelligence Scientist (CAIS)**

Version : DEMO

1.How does ChatGPT handle the context of a conversation to provide coherent responses?

- A. Through convolutional filters
- B. By using recurrent layers
- C. By leveraging a dynamic memory system that captures and stores conversation history across multiple interactions
- D. By maintaining context within token embeddings

Answer: D

Explanation:

ChatGPT maintains context within token embeddings, allowing it to understand and generate responses that are coherent and relevant to the ongoing conversation, even over multiple exchanges.

2.What strategy should be employed to manage system failures in a high-availability AI architecture?

- A. Avoiding the use of backup systems to reduce costs
- B. Relying on manual intervention for fault resolution
- C. Implementing automated failover and redundancy mechanisms
- D. Minimizing monitoring to focus on development

Answer: C

Explanation:

To manage system failures in a high-availability AI architecture, implementing automated failover and redundancy mechanisms is crucial. These strategies ensure that the system remains operational and resilient in the face of failures, minimizing downtime and maintaining service continuity.

3.How does the slack variable contribute to SVM optimization?

- A. It allows some data points to be misclassified for a softer margin.
- B. It controls the convergence rate of the training algorithm.
- C. It reduces the dimensionality of the feature space during training.
- D. It improves the kernel selection process for non-linear data.

Answer: A

Explanation:

The slack variable in SVMs allows for some misclassification of data points to achieve a softer margin. This is particularly useful in cases where the data is not perfectly separable, as it enables the model to focus on finding a good trade-off between margin width and classification accuracy.

4.Which technique is commonly used to mitigate mode collapse in GANs?

- A. Reducing the batch size during training
- B. Implementing Wasserstein loss with a gradient penalty
- C. Increasing the learning rate of the discriminator
- D. Using batch normalization exclusively in the generator

Answer: B

Explanation:

Implementing Wasserstein loss with a gradient penalty is a technique commonly used to mitigate mode collapse in GANs. This approach improves the stability of GAN training and encourages the generator to produce a wider variety of outputs.

5.Which AutoML technique is used to automatically select the best model from a pool of candidate models based on validation performance?

- A. Hyperparameter Tuning
- B. Feature Engineering
- C. Model Ensemble
- D. Model Selection

Answer: D

Explanation:

Model Selection involves automatically choosing the best model from a set of candidate models based on validation performance. This technique is critical in AutoML for ensuring that the chosen model achieves the best possible performance for the given data.