MACHINE LEARNING

Q.1] D

Q.2] D

Q.3] C

Q.4] B

Q.5] D

Q.6] C

Q.7] D

Q.8] A

Q.9] B

Q.10] B

Q.11] A

Q.12] B

Q.13] What is the importance of clustering?

ANS.= clustering is a tehchnique used for data analysis and machine learning to group similar data points together. It is an unsupervised learning method, meaning that it does not require labeled data. Clustering can be used for a variety of tasks, such as identifying patterns in data, reducing the dimensionality of data, and creating more meaningful features for use in supervised learning algorithms. It can also be used for outlier detection and image segmentation. Clustering plays a key role in many areas of data analysis and machine learning and can help to make sense of complex, high- dimensional data. Overall, clustering is an important technique that can help to uncover hidden patterns in data, and can be used to make decisions and predictions based on that data.

Q.14] How can I improve my clustering performance?

ANS= we can improve our clustering performance by various pratices like=

1] Feature selection: Use only the most relevant features for clustering. This can reduce the dimensionality of the data and make it easier for the clustering algorithm to find patterns.

2] Data preprocessing: Clean and normalize the data before clustering. Removing outliers and noise can improve the performance of the clustering algorithm.

3] Choosing the right algorithm: Different clustering algorithms are suited for different types of data and problem domains. Choosing the right algorithm for the task can improve performance.

4] Hyperparameter tuning: Many clustering algorithms have various parameters that can be adjusted. Fine-tuning these parameters can improve performance.

5 Ensemble methods: Combining the results of multiple clustering algorithms can improve performance and robustness.

6] Consider using external validation metrics: Some metrics such as Silhouette score, Davies-Bouldin index, Calinski-Harabasz index, etc can be used to evaluate the clustering performance, and help you to choose the best clustering algorithm and/or number of clusters.

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