Date: February 21, 2024

SMART INTERNZ - APSCHE

AI / ML Training

Assessment

1. In logistic regression, what is the logistic function (sigmoid function) and how is it used to compute probabilities?

2. When constructing a decision tree, what criterion is commonly used to split nodes, and how is it calculated?

3. Explain the concept of entropy and information gain in the context of decision tree construction.

4. How does the random forest algorithm utilize bagging and feature randomization to improve classification accuracy?

5. What distance metric is typically used in k-nearest neighbors (KNN) classification, and how does it impact the algorithm's performance?

6. Describe the Naïve-Bayes assumption of feature independence and its implications for classification.

7. In SVMs, what is the role of the kernel function, and what are some commonly used kernel functions?

8. Discuss the bias-variance tradeoff in the context of model complexity and overfitting.

9. How does TensorFlow facilitate the creation and training of neural networks?

10. Explain the concept of cross-validation and its importance in evaluating model performance.

11. What techniques can be employed to handle overfitting in machine learning models?

12. What is the purpose of regularization in machine learning, and how does it work?

13. Describe the role of hyper-parameters in machine learning models and how they are tuned for optimal performance.

14. What are precision and recall, and how do they differ from accuracy in classification evaluation?

15. Explain the ROC curve and how it is used to visualize the performance of binary classifiers.