Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 71%. We keep your highest score.

Next item →

1. A telecom company uses past customer behavior to predict service cancellations. Which model should they use for this classification task? 1 / 1 point

- (●) Decision trees
- ( ) Naïve Bayes
- ( ) Neural networks
- ( ) K-nearest neighbors

Correct
Decision trees are commonly used in classification to split customer data into categories based on features.

2. In a one-versus-one classification approach, how can the final class label be decided in case of a tie? 1 / 1 point

- ( ) Majority vote
- ( ) Sequential selection
- (●) Probability weighing
- ( ) Random selection

Correct
Probability weighing can be used to break ties by giving preference to the class with the highest confidence score, not just the number of votes.

3. You want to determine the best feature to split the data at each node while building a decision tree. Which of the following criteria will you use? 1 / 1 point

- ( ) Mean squared error
- ( ) Random selection
- ( ) Accuracy score
- (●) Information gain

Correct
Information gain measures the reduction in entropy and is commonly used to determine the best split in decision trees.

4. A data scientist splits a continuous feature using thresholds between consecutive sorted values. Which method is being used to determine candidate splits in this regression tree? 1 / 1 point

- ( ) Entropy reduction method
- (●) Midpoints method
- ( ) Mean squared error (MSE) method
- ( ) Exhaustive search method

Correct
The midpoints of sorted, unique values are commonly used as candidate thresholds in regression trees.

5. Why do you observe poor accuracy in K-nearest neighbors (KNN) predictions after increasing the K value? 1 / 1 point

- ( ) Too small training data
- (●) Too many smoothing of patterns
- ( ) Too many irrelevant features
- ( ) Too many scaling errors

Correct
High k values dilute detail, leading to pattern loss.

6. Jammy is adjusting the epsilon (ε) parameter while tuning the support vector regression (SVR) model to predict housing prices. What aspect of the model is Jammy controlling by changing the "ε"? 1 / 1 point

- ○ The choice of kernel function to use with SVM
- ○ The complexity of the decision boundary that maximizes the margin
- ○ The number of support vectors used in the model
- ◉ The maximum allowed error for points within the margin

Correct
Epsilon defines the margin around the prediction, treating points within it as acceptable deviations.

7. Your team is evaluating the model and has identified that it makes inaccurate predictions even on the training data and seems too simple. What is the consequence of high bias in a model? 1 / 1 point

- ○ The model is sensitive to noise in the training data.
- ○ The model tends to overfit the training data for predictions.
- ○ The model performs well on both training and testing datasets.
- ◉ The model performs poorly on training data due to oversimplification.

Correct
High bias leads to underfitting, resulting in poor predictions.