socrative

Mher
ZILFIMIAN
May 18, 2020

DM-Spring-2020-Q7-Grade 66.67% (12/18)

✓ **1.** (Classification) Decision Tree Decision Boundaries

- A are a step-wise constant function
- B I do not know
- C continuous function
- D are axis-parallel rectangles

✓ **2.** Root Node has

- A no incoming edges and zero or more outgoing edges
- B one incoming edge and two or more outgoing edges
- C one incoming edge and no outgoing edges
- D I do not know

✗ **3.** Pruning the tree means

- A Simplify the tree
- B Split the tree's nodes
- C Merge the tree's nodes
- D I do not know

✓ **4.** Gini index equals to

- A 1 - sum (pi^2)
- B 1 + sum (pi^2)
- C sum(pi * log(pi))
- D -sum(pi * log(pi))
- E I do not know

✗ **5.** Entropy starts with 0 (rough mathematically)

A True
B False
C I do not know

✗ **6.** Overall impurity measure can be obtained by

A a weighted average of individual rectangles
B majority voting
C I do not know

✓ **7.** At each stage, we choose the split with

A the lowest Gini index
B the lowest Chi-square value
C the highest entropy
D I do not know

✓ **8.** We can perform the Decision Trees in r using

A rpart()
B decisiontree()
C destree()
D reg.tree()
E I do not know

✗ **9.** minsplit in R means

A the minimum number of observations that must exist in a node in order for a split to be attempted
B the minimum number of observations in any terminal node
C the minimum number of splits
D I do not know

✗ **10.** Bagging is a technique used to reduce

- A the variance of our predictions
- B the bias of our predictions
- C both
- D I do not know

✓ **11.** Bootstrap aggregation allows sampling

- A with replacement
- B without replacement
- C I do not know
- D both

✓ **12.** How can Ensemble methods be constructed?

- A By manipulating the training set
- B By manipulating the input features
- C By manipulating the class labels
- D By manipulating the learning algorithm
- E All of them
- F None
- G I do not know

✓ **13.** Repeatedly sampling observations are taken

- A from general population
- B original sample data set
- C I do not know
- D None

✓ **14.** Random Forest differs from bagging

- A by a random sample of m predictors
- B by bootstrapped training samples
- C by adaptive sampling
- D I do not know

✓ **15.** Boosting differs from bagging

- A by a random sample of m predictors
- B by bootstrapped training samples
- C by adaptive sampling
- D I do not know

✗ **16.** Averaging many highly correlated quantities

- A lead to as large of a reduction in variance
- B does not lead to as large of a reduction in variance
- C lead to as large of a reduction in bias
- D I do not know

✓ **17.** We can perform a Random forest in R using the function

- A randomForest()
- B rf()
- C randomF()
- D boot()
- E I do not know

✓ **18.** Random Forest works

- A for classification
- B for regression
- C both
- D I do not know