

Started on Sunday, April 2, 2023, 11:24 PM

State Finished

Completed on Sunday, April 2, 2023, 11:31 PM

Time taken 6 mins 54 secs

Points 7.00/10.00

Grade 70.00 out of 100.00

Question **1**

Correct

1.00 points out of 1.00

A confusion matrix shows

Select one:

- ☐ the size of the majority supporting each class for all training examples.
- ☐ the hyperparameter values that produce the highest training error.
- ☐ convergence time vs. accuracy.
- ☐ the extent to which classes are balanced in the training, validation, and testing sets.
- ☒ numbers of true positives, false negatives, false positives, and true negatives. ✓

Your answer is correct.

The correct answer is: numbers of true positives, false negatives, false positives, and true negatives.

Question **2**

Correct

1.00 points out of 1.00

In a random forest model, each tree is trained on all of the training data

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.



Question 3

Correct

1.00 points out of 1.00

The sum of the prediction error and accuracy will always be 1.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

Question 4

Correct

1.00 points out of 1.00

Grid search is a method for

Select one:

- ☐ gradient descent.
- ☐ finding false positives.
- ☒ hyperparameter tuning. ✓
- ☐ limiting decision tree growth.
- ☐ plotting decision boundaries.

Your answer is correct.

The correct answer is: hyperparameter tuning.




Question 5

Incorrect

0.00 points out of 1.00

The sum of the true positive rate and the false positive rate will always be 1.

Select one:

- ☒ True 
- ☐ False

The correct answer is 'False'.


Question 6

Correct

1.00 points out of 1.00

K-fold cross-validation is used to

Select one:

- ☐ maximize the true negative rate.
- ☐ minimize the false negative rate.
- ☐ ensure that there will be fewer than k errors.
- ☒ estimate performance on unseen data. 
- ☐ minimize the false positive rate.
- ☐ maximize the true positive rate.

Your answer is correct.

The correct answer is: estimate performance on unseen data.



Question 7

Correct

1.00 points out of 1.00

In a random forest model, all features are considered for each decision.

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

Question 8

Correct

1.00 points out of 1.00

In bagging, individual classifiers are trained on

Select one:

- ☐ possibly-overlapping subsets of the testing set.
- ☒ possibly-overlapping subsets of the training set. ✓
- ☐ clusters of training examples determined using the k-means algorithm.
- ☐ the complete training set, but using different hyperparameters.
- ☐ clusters of testing examples determined using the k-means algorithm.
- ☐ the complete testing set, but using different hyperparameters.

Your answer is correct.

The correct answer is: possibly-overlapping subsets of the training set.



Question 9

Incorrect

0.00 points out of 1.00

The Euclidian distance between two data points will always be less than or equal to the Manhattan distance.

Select one:

- ☐ True
- ☒ False ✖

The correct answer is 'True'.

Question 10

Incorrect

0.00 points out of 1.00

An advantage of the k-nearest-neighbors model is that

Select one:

- ☐ (No other answers here are correct.)
- ☐ decision boundaries are guaranteed to be linear.
- ☒ only k data points are required for training. ✖
- ☐ training is fast.
- ☐ all but k data points may be discarded after training.

Your answer is incorrect.

The correct answer is: training is fast.

◀ Code from class (ensemble)

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Ensembles Assignment ▶

