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Module 1 Quiz

Quiz, 10 questions

Question 1
1
point

1. Question 1

Select the option that correctly completes the sentence:

Training a model using labeled data and using this model to predict the labels for new data is known as _____.

Supervised Learning

Density Estimation

Clustering

Unsupervised Learning

Question 2
1
point

2. Question 2

Select the option that correctly completes the sentence:

Modeling the features of an unlabeled dataset to find hidden structure is known as _____.

Classification

Unsupervised Learning

Supervised Learning

Regression

Question 3
1
point

3. Question 3

Select the option that correctly completes the sentence:

Training a model using categorically labelled data to predict labels for new data is known as _____.

Classification

Regression

Feature Extraction

Clustering

Question 4
1
point

4. Question 4

Select the option that correctly completes the sentence:

Training a model using labelled data where the labels are continuous quantities to predict labels for new data is known as _____.

Feature Extraction

Regression

Classification

Clustering

Question 5
1
point

5. Question 5

Using the data for classes 0, 1, and 2 plotted below, what class would a KNeighborsClassifier classify the new point as for k = 1 and k = 3?

- k=1: Class 1
- k=3: Class 0
- k=1: Class 2
- k=3: Class 1
- k=1: Class 0
- k=3: Class 2
- k=1: Class 1
- k=3: Class 2
- k=1: Class 0
- k=3: Class 1

Question 6
1
point

6. Question 6

Which of the following is true for the nearest neighbor classifier (Select all that apply):

Memorizes the entire training set

Given a data instance to classify, computes the probability of each possible class using a statistical model of the input features

Partitions observations into k clusters where each observation belongs to the cluster with the nearest mean

A higher value of k leads to a more complex decision boundary

Question 7
1
point

7. Question 7

Why is it important to examine your dataset as a first step in applying machine learning? (Select all that apply):

See what type of cleaning or preprocessing still needs to be done

You might notice missing data

Gain insight on what machine learning model might be appropriate, if any

Get a sense for how difficult the problem might be

It is not important

Question 8
1
point

8. Question 8

The key purpose of splitting the dataset into training and test sets is:

To estimate how well the learned model will generalize to new data

To reduce the number of features we need to consider as input to the learning algorithm

To reduce the amount of labelled data needed for evaluating classifier accuracy

To speed up the training process

Question 9
1
point

9. Question 9

The purpose of setting the random_state parameter in train_test_split is: (Select all that apply)

To avoid predictable splitting of the data

To make experiments easily reproducible by always using the same partitioning of the data

To avoid bias in data splitting

To split the data into similar subsets so that bias is not introduced into the final results

Question 10
1
point

10. Question 10

Given a dataset with 10,000 observations and 50 features plus one label, what would be the dimensions of X_train, y_train, X_test, and y_test? Assume a train/test split of 75%/25%.

- X_train: (2500,)
- y_train: (2500, 50)
- X_test: (7500,)
- y_test: (7500, 50)
- X_train: (7500, 50)

- y_train: (7500,)
- X_test: (2500, 50)
- y_test: (2500,)
- X_train: (2500, 50)
- y_train: (2500,)
- X_test: (7500, 50)
- y_test: (7500,)
- X_train: (10000, 50)
- y_train: (10000,)
- X_test: (10000, 50)
- y_test: (10000,)
- X_train: (10000, 28)
- y_train: (10000,)
- X_test: (10000, 12)
- y_test: (10000,)

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