Unit 5 - Week 3

Assignment 3

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-08-21, 23:59 IST.

1) **K-Nearest Neighbor** is a _____, _____ algorithm — *1 point*

a. Non-parametric, eager
b. Parametric, eager
c. Non-parametric, lazy
d. Parametric, lazy

a b c d

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

2) You have been given the following 2 statements. Find out which of these options is/are true in case of k-NN? — *1 point*

1. In case of very large value of k, we may include points from other classes into the neighborhood.
2. In case of too small value of k, the algorithm is very sensitive to noise.

a. 1 is True and 2 is False
b. 1 is False and 2 is True
c. Both are True
d. Both are False

a b c d

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

3) State whether the statement is True/False: — *1 point*

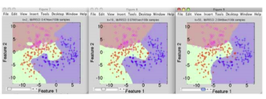
k-NN algorithm does more computation on test time rather than train time.

1. True
2. False

a b

No, the answer is incorrect.
Score: 0
Accepted Answers:
a

4) Suppose you are given the following images (1 represents the left image, 2 represents the middle and 3 represents the right). Now your task is to find out the value of k in k-NN in each of the images shown below. Here k1 is for 1st, k2 is for 2nd and k3 is for 3rd figure. — *1 point*



a. k1 > k2> k3
b. k1 < k2> k3
c. k1 < k2 < k3
d. None of these

a b c d

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

5) Which of the following necessitates feature reduction in machine learning? — *1 point*

a. Irrelevant and redundant features
b. Limited training data
c. Limited computational resources.
d. All of the above

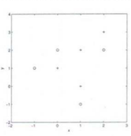
a b c d

No, the answer is incorrect.
Score: 0
Accepted Answers:
d

6) **Suppose, you have given the following data where x and y are the 2 input variables and Class is the dependent variable.** — *1 point*

x	y	Class
-1	1	$-$
0	1	$+$
0	2	$-$
1	-1	$-$
1	0	$+$
1	2	$+$
2	2	$-$
2	3	$+$

Below is a scatter plot which shows the above data in 2D space.



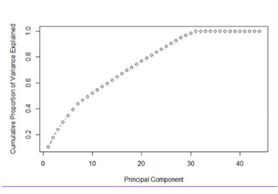
Suppose, you want to predict the class of new data point x=1 and y=1 using Eucledian distance in 3-NN. In which class this data point belong to?

a. + Class
b. − Class
c. Can't Say
d. None of these

a b c d

No, the answer is incorrect.
Score: 0
Accepted Answers:
a

7) **What are the optimum number of principal components in the below figure ?** — *1 point*



a. 10
b. 20
c. 30
d. 40

a b c d

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

8) Suppose we are using dimensionality reduction as pre-processing technique, i.e, instead of using all the features, we reduce the data to k dimensions with PCA. And then use these PCA projections as our features. Which of the following statements is correct? — *1 point*

Choose which of the options is correct?

a. Higher value of 'K' means more regularization
b. Higher value of 'K' means less regularization

a b

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

9) In collaborative filtering based recommendation, the items are recommended based on : — *1 point*

a. Similar users
b. Similar items
c. Both of the above
d. None of the above

a b c d

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

10) The major limitation of collaborative filtering is: — *1 point*

a. Cold start
b. Overspecialization
c. None of the above

a b c

No, the answer is incorrect.
Score: 0
Accepted Answers:
a