Quiz navigation

1 2 3 4 5 6

Show one page at a time

Finish review

Started on	Thursday, 6 May 2021, 11:59 AM
State	Finished
Completed on	Thursday, 6 May 2021, 12:24 PM
Time taken	25 mins
Marks	0.00/6.00
Grade	**0.00** out of 10.00 (**0**%)

Question **1**

Not answered

Marked out of 1.00

Flag question

Which of the following statements is/are CORRECT about ensemble learning? (you can choose more than one option)

Select one or more:

- a. In Bagging, models are trained in parallel
- b. In Bagging, bootstrap is used to sample from features
- c. Bagging is useful to reduce the bias if algorithms are high bias
- d. Bagging is useful to reduce the variance with big data

Your answer is incorrect.

The correct answer is: In Bagging, models are trained in parallel

Question **2**

Not answered

Marked out of 1.00

Flag question

Suppose that you are given the below dataset of mushroom types with two features of "color" and whether the mushroom "is spotted" and the output variable of whether the mushroom "is poisonous". Which of the following statements is/are correct assuming that features are conditionally independent?

x_1 = Color	x_2 = Is Spotted	y = Is Poisonous
dark brown	yes	**Yes**
white	yes	**Yes**
dark brown	no	**Yes**
white	no	**No**
dark brown	no	**No**
light brown	no	**No**
white	yes	**No**

Select one or more:

- a. $P(x1 = white, x2 = yes | y = Yes) = \frac{2}{9}$
- b. $P(y = Yes) = \frac{3}{7}$
- c. $P(x_1 = white, x_2 = yes | y = Yes) = \frac{1}{3}$
- d. $P(x1 = white, x2 = yes | y = Yes) = \frac{2}{7}$

Your answer is incorrect.

The correct answers are: $P(y = Yes) = \frac{3}{7}$, $P(x1 = white, x2 = yes | y = Yes) = \frac{2}{9}$

Question **3**

Not answered

Marked out of 1.00

Flag question

Supposed that you have applied Decision Tree algorithm to your training set and validation set and you have got the following scenarios by choosing different depth for your algorithm. Which depth you will pick for your final model?

Depth	Training error	Validation error
3	30%	35%
4	26%	30%
5	22%	30%
6	15%	35%

Select one:

- a. 4
- b. 6
- c. 5
- d. 3

Your answer is incorrect.

The correct answer is: 4

Question **4**

Not answered

Marked out of 1.00

Flag question

A random variable follows an *exponential* distribution with parameter λ (λ > 0) if it has the following density:

$$p(x) = \lambda e^{-\lambda x}, x \in [0, \infty]$$

This distribution is often used to model waiting times between events. Imagine you are given *i.i.d.* data X = ($x_{1,...,}x_m$) where each x_i is modelled as being drawn from an exponential distribution with parameter λ

Question: what is the log-probability of X given λ? (log-probability = $\log_e p(X \mid \lambda)$)

Select one:

a. $\lambda^m \prod_{m}^{i=1} e^{-\lambda x_i}$

b. $\log_e \lambda - \lambda \sum_{m}^{i=1} x_i$

c. $\log_e \lambda - \lambda \prod_{i=1}^{m} x_i$

d. $m \log_e \lambda - \lambda \sum_{i=1}^{m} x_i$

Your answer is incorrect.

The correct answer is: $m \log_e \lambda - \lambda \sum_{i=1}^{m} x_i$

Question **5**

Not answered

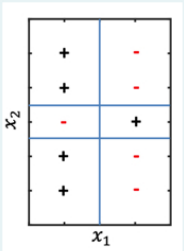
Marked out of 1.00

Flag question

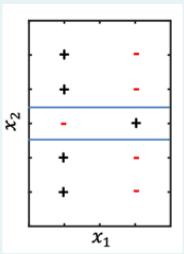
On the dataset below with two features x_1, x_2, which of the following decision boundaries could be learned by 1-NN (K Nearest Neighbour with K=1)? (select only one option)

Select one:

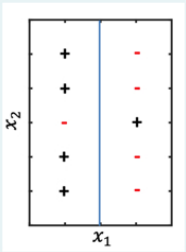
a.



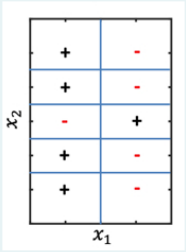
b.



c.

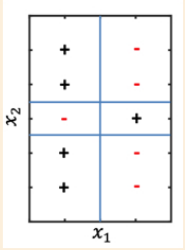


d.



Your answer is incorrect.

The correct answer is:



Question **6**

Not answered

Marked out of 1.00

Flag question

Which of the following models can NOT achieve training error of zero on any linearly separable dataset? (you can choose more than one option)

Select one or more:

- a. Perceptron
- b. 15-NN
- c. Hard-margin SVM
- d. Decision tree

Your answer is incorrect.

The correct answer is: 15-NN

Finish review