

Quiz 2

Due Dec 21 at 19:00**Points** 10**Questions** 20**Available** Dec 20 at 19:00 - Dec 21 at 19:00 1 day**Time Limit** 60 Minutes

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	8 minutes	9.5 out of 10

Score for this quiz: **9.5** out of 10

Submitted Dec 21 at 15:13

This attempt took 8 minutes.

Question 1

0 / 0.5 pts

. In tree based models, which of the following is true

☒ hyper tuning considers the only training results☐ hyper tuning considers the validation results☐☐☐

Question 2

0.5 / 0.5 pts

You Answered

Correct Answer

A neuron with 3 inputs has the weight vector $[0.6 \ -0.1 \ 0.1]$ and a bias $\theta = 0$. If the input vector is $X = [0.2 \ 0.4 \ 0.2]$ then the total input to the neuron is:

☐ 0☐ 1☒ 0.1☐ 0.01**Correct!****Question 3****0.5 / 0.5 pts**

. In Neural networks the training time is independent of the size of the network.

☐☒ False☐ True☐**Correct!****Question 4****0.5 / 0.5 pts**

Consider ROC curve for Random Forest and Linear Regression for a model. Which of the following do you choose for your final solution

Correct!☐ Linear Regression with least AUC☐☒ Random forest with largest AUC☐**Question 5****0.5 / 0.5 pts**

Increase in the value of max_depth may underfit the data in Gradient Boosting

☐☐ True☒ False☐**Correct!****Question 6****0.5 / 0.5 pts**

Random Forest model is generally for regression and Gradient Boosting is for Classifying

☐ True☐

Correct!☐☒ False**Question 7****0.5 / 0.5 pts**

Boosting is a method improving a model by combining independent weak learners

☐☐ True☐**Correct!**☒ False**Question 8****0.5 / 0.5 pts**

In general, Line of best fit regression line is found the one with

☐ Sum of residuals ($\sum(Y - h(X))$) is minimum☐ Sum of the absolute value of residuals ($\sum|Y-h(X)|$) is maximum☒ Sum of the square of residuals ($\sum (Y-h(X))^2$) is minimum☐ None**Correct!**

Question 9**0.5 / 0.5 pts**

If the regression equation is equal to $y=23.6-54.2x$, then the intercept and slope are :

- ☐ not known
- ☐ -54.2 and 23.6
- ☐
- ☒ 23.6 and -54.2

Correct!**Question 10****0.5 / 0.5 pts**

Which of the following can NOT be answered from a regression equation?

- ☐ Estimate the slope between y and x
- ☐ Predict the value of y at a particular value of x.
- ☐ Estimate whether the linear association is positive or negative.
- ☒ Answer not given

Correct!**Question 11****0.5 / 0.5 pts**

A regression equation between foot length (response variable in cm) and height (independent variable in inches) for 33 students resulted in the following regression equation:

$$\hat{y} = 10 + 0.23x$$

A student in the sample was 74 inches tall with a foot length of 30 cm. What is the predicted foot length?

Correct!

- ☒ 27.02
- ☐ 17.57 cm
- ☐ 33 cm
- ☐ 27.69 cm

Question 12

0.5 / 0.5 pts

1. Each tree in a random forest is built on the subset of all the features.
2. Each of the trees in a random forest is built on the full data/records

Correct!

- ☐ both 1 and 2 are false
- ☒ 1 is true 2 is false
- ☐ 2 is true 1 is false
- ☐ both 1 and 2 are true

Question 13

0.5 / 0.5 pts

Which of the following is not a hyperparameter in Neural Networks.

Correct!

☐ learning rate

☒ bias

☐ No. of hidden layers

☐ epochs

Question 14

0.5 / 0.5 pts

1. Dropout is a technique to prevent overfitting of data.

2. lower learning rate causes minimal updates to weights

☐ both 1 and 2 are false

☐ only 2 is true

Correct!

☒ 1 and 2 are true

☐ 1 is true 2 is false

Question 15

0.5 / 0.5 pts

1. Backpropagation transfers the error information from the end of the neural network to all the weights inside the network.

2. Forward propagation transfers the error information from the end of the neural network to all the weights inside the network.

☐ 2 is true 1 is false

☐

☐ Both are true

☒ 1 is true 2 is false

Correct!

Question 16

0.5 / 0.5 pts

Which of the following statement(s) are true about Activation Functions

1.It introduces nonlinearity into the neural network

2.It translates the inputs into outputs

3.It is responsible for deciding whether a neuron should be activated or not.

☒ All are true

☐ only 1

☐ only 2

☐ only 2 and 3

Correct!

Question 17

0.5 / 0.5 pts

If S is a sample containing 14 boolean examples, with 9 positive and 5 negative examples. Then, the entropy of S relative to this boolean classification is:

☐ 0.1☐ 0.96☒ 0.940☐ 0.95**Correct!****Question 18****0.5 / 0.5 pts**

Tree based classifiers are

- a. Classifiers which form a tree with each attribute at one level
- b. Classifiers which perform series of condition checking with one attribute at a time

☐ a is true b is false☒ Both are true☐ both are false☐**Correct!****Question 19****0.5 / 0.5 pts**

Which one is not a measure of impurity in tree based models

☐ Information gain

☐ Entropy

☒ Answer not given

☐ Gini Index

Correct!

Question 20

0.5 / 0.5 pts

Information gain

a. is biased towards single-valued attributes

b. is biased towards multi-valued attributes

☐ a is true b is false

☐ both are false

☐

☒ b is true a is false

Correct!

Quiz Score: **9.5** out of 10