**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](https://bits-pilani.instructure.com/courses/573/quizzes/1407/history?version=1) | 13 minutes | 10 out of 10 |

Score for this quiz: **10** out of 10

Submitted Dec 21 at 16:04

This attempt took 13 minutes.

**Question 1**

**0.5 / 0.5 pts**

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









hyper tuning considers the only training results

**Correct!**



hyper tuning considers the validation results

**Question 2**

**0.5 / 0.5 pts**

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

**Correct!**



0.1



1



0.01



0

**Question 3**

**0.5 / 0.5 pts**

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



True





**Correct!**



False

**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!**



Random forest with largest AUC







Linear Regression with least AUC

**Question 5**

**0.5 / 0.5 pts**

Increase in the value of max\_depth may underfit the data in Gradient Boosting





**Correct!**



False



True

**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 (∑(Y – h(X))) is minimum

**Correct!**



Sum of the square of residuals ( ∑ (Y-h(X))2) is minimum



Sum of the absolute value of residuals (∑|Y-h(X)|) is maximum



None

**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 :

**Correct!**



23.6 and -54.2



not known



-54.2 and 23.6



**Question 10**

**0.5 / 0.5 pts**

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

**Correct!**



Answer not given



Estimate the slope between y and x



Estimate whether the linear association is positive or negative.



Predict the value of y at a particular value of x.

**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:  
yˆ = 10 + 0.23 x  
A student in the sample was 74 inches tall with a foot length of 30 cm. What is the predicted foot length?



33 cm



17.57 cm

**Correct!**



27.02



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



2 is true 1 is false

**Correct!**



1 is true 2 is false



both 1 and 2 are true



both 1 and 2 are false

**Question 13**

**0.5 / 0.5 pts**

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

**Correct!**



bias



learning rate



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

**Correct!**



1 and 2 are true



both 1 and 2 are false



1 is true 2 is false



only 2 is true

**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

**Correct!**



1 is true 2 is false

**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.

**Correct!**



All are true



only 2



only 2 and 3



only 1

**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:



0.96

**Correct!**



0.940



0.95



0.1

**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

**Correct!**



Both are true





both are false

**Question 19**

**0.5 / 0.5 pts**

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



Information gain

**Correct!**



Answer not given



Gini Index



Entropy

**Question 20**

**0.5 / 0.5 pts**

Information gain  
a. is biased towards single-valued attributes  
b. is biased towards multi-valued attributes

**Correct!**



b is true a is false



both are false



a is true b is false

