Post-Test AI/ML - Chennai

Points: 20/24

1. What is the output size of a convolution mechanism where image height*width are 7*7 , filter size is 3*3 and stride is 2.
(1/1 Points)

- 5*5
- 3*3 ✓
- 7*7
- None of the above

2. Sigmoid function is usually used for creating a neural network activation function. A sigmoid function is denoted as def sigmoid(x): return (1 / (1 + math.exp(-x))) It is necessary to know how to find the derivatives of sigmoid, as it would be essential for backpropagation. Select the option for finding derivative?
(1/1 Points)

- import scipy Dv = scipy.misc.derive(sigmoid)
- from sympy import * x = symbol(x) y = sigmoid(x) Dv = y.differentiate(x)
- Dv = sigmoid(x) * (1 - sigmoid(x)) ✓
- All of the above

3. Which loss function is better to use in case of a multiclass neural network
(1/1 Points)

- Accuracy
- Cross-entropy ✓
- F1 Score
- Mean Absolute Error

4. What is the purpose of linear regression?
(1/1 Points)

- To assess whether there is a significant difference between independent groups
- To predict scores on a dependent variable from scores on multiple independent variables ✓
- To predict scores on a dependent variable from scores on multiple dependent variables
- All of the above

✗

5. For an image recognition problem which architecture of deep neural network would be better suited?
(0/1 Points)

- RNN
- CNN ✓
- Perceptron
- Fully connected layer

6. What statement is correct with regards to Topic Modeling?
(0/1 Points)

- It is a supervised learning technique
- LDA (Linear Discriminant Analysis) can be used to perform topic modeling
- Selection of number of topics in a model does not depend on the size of data
- Number of topic terms are directly proportional to size of the data
- All the above are wrong ✓

7. Overfitting will create
(1/1 Points)

- No impact on the model's predictive power
- Negative impact on the model's predictive power ✓
- Positive impact on the model's predictive power

8. Which of the following algorithm doesn't uses learning Rate as of one of its hyperparameter?
(1/1 Points)

- Stochastic Gradient Descent
- Random Forest ✓
- Perceptron
- Neural Network

9. Which distance metric is used in K-means algorithm?
(1/1 Points)

- Centimeter

- Manhattan
- Cosine
- Euclidian ✓

10. Gradient overshooting of weights caused by
(0/1 Points)

- High initial values of weights
- High Learning Rate ✓
- Low Learning Rate
- Poor optimization algorithm used

11. You have collected a data of about 10,000 rows of tweet text and no other information. You have created a document term matrix of the data, treating every tweet as one document. Which of the following is correct, in regards to document term matrix?
(1/1 Points)

1.Removal of stopwords from the data will affect the dimensionality of data
2.Normalization of words in the data will reduce the dimensionality of data
3. Converting all the words in lowercase will not affect the dimensionality of the data

- Only 1
- Only 2
- Only 3
- 1 and 2 ✓
- 2 and 3
- 1 and 3
- 1, 2 and 3

12. Pandas is built on which library?
(1/1 Points)

- (●) Numpy ✓
- ( ) Scipy
- ( ) Rpy
- ( ) None of the above

13. Given the data, one needs to predict if a person has a particular disease or not. What kind of problem is this?
(1/1 Points)

- (●) Supervised learning – Classification ✓
- ( ) Supervised learning – Regression
- ( ) Unsupervised learning
- ( ) None of the above

14. If the sample is completely homogenous what is the value of entropy?
(1/1 Points)

- ( ) 1
- ( ) 0.5
- (●) 0 ✓
- ( ) Infinity

15. Which module includes score functions, performance metrics and pairwise metrics and distance computations.
(1/1 Points)

- sklearn.linear_model
- sklearn.exceptions
- sklearn.metrics ✓
- None of the above

16. Supervised learning adopts
(1/1 Points)

- Unlabeled Data
- Unstructured data
- Labeled data ✓
- None of the above

17. Which of the following techniques perform similar operations as a dropout in a neural network?
(1/1 Points)

- Dimensionality Reduction
- Boosting
- Bagging ✓
- None of the above

18. Example of high bias algorithm is
(1/1 Points)

- Linear Regression ✓

- Decision Tree
- Neural Network
- All of the above

19. Which of the following statement is true for Word2Vec model?
(1/1 Points)

- The architecture of word2vec consists of only two layers – continuous bag of words and skip-gram model
- Continuous bag of word (CBOW) is a Recurrent Neural Network model
- Both CBOW and Skip-gram are shallow neural network models ✓
- All of the above

20. What problem you could face if you have a non-differentiable function in one of the layers of the network.
(1/1 Points)

- Network will work as intended
- Information will not pass to next layer
- Will need more epochs to learn
- Weights will not update ✓

✕

21. The gradient of a differential and continuous function is
(0/1 Points)

- zero at saddle point
- zero at minima

- zero at maxima
- All of the above ✓

22. What is the advantage of Pytorch over tensorflow
(1/1 Points)

- Speed
- Can use GPU
- Can have dynamic graphs ✓
- Pytorch has no advantage

23. Which of the following features can be used for accuracy improvement of a classification model?
(1/1 Points)

- Frequency count of terms
- Vector Notation of sentence
- Part of Speech Tag
- Dependency Grammar
- All of these ✓

24. What is K in K-means algorithm?
(1/1 Points)

- No of cores used
- No of cluster centers ✓
- No of optimization parameters
- None of the above