Deep Neural Network

MULTIPLE TYPE QUESTIONS

1. Which of the following is a subset of machine learning?

A. Numpy
B. SciPy
C. **Deep Learning**
D. All of the above

2, RNNs stands for?

A. Receives neural networks
B. Report neural networks
C. Recording neural networks
D. Recurrent neural networks

3. CNN is mostly used when there is an?

A. structured data
B. unstructured data
C. Both A and B
D. None of the above

4. In which of the following applications can we use deep learning to solve the problem?

A. Protein structure prediction
B. Prediction of chemical reactions
C. Detection of exotic particles
D. All of the above

5. The number of nodes in the input layer is 10 and the hidden layer is 5. The maximum number of connections from the input layer to the hidden layer are

A. 50
B. less than 50
C. more than 50
D. It is an arbitrary value

6. The input image has been converted into a matrix of size 28 X 28 and a kernel/filter of size 7 X 7 with a stride of 1. What will be the size of the convoluted matrix?

A. 20x20
B. 21x21
C. 22x22
D. 25x25

7.In a simple MLP model with 8 neurons in the input layer, 5 neurons in the hidden layer and 1 neuron in the output layer. What is the size of the weight matrices between hidden output layer and input hidden layer?

A. [1 X 5] , [5 X 8]
B. [5 x 1] , [8 X 5]
C. [8 X 5] , [5 X 1]
D. [8 X 5] , [1 X 5]

8. Which of the following functions can be used as an activation function in the output layer if we wish to predict the probabilities of n classes (p1, p2..pk) such that sum of p over all n equals to 1?

A. Softmax
B. ReLu
C. Sigmoid
D. Tanh

9. Which of the following is an example of deep learning?

A. Self-driving cars

B. Pattern recognition

C. Natural language processing

D. All of the above

10. Which is the following is true about neurons?

A. A neuron has a single input and only single output

B. A neuron has multiple inputs and multiple outputs

C. A neuron has a single input and multiple outputs

D. All of the above

11. Which of the following steps can be taken to prevent overfitting in a neural network?

A. Dropout of neurons

B. Early stopping

C. Batch normalization

D. All of the above

12. Which of the following is a deep learning library?

A. Tensorflow

B. Keras

C. PyTorch

D. All of the above

13. What is the purpose of a loss function?

A. Calculate the error value of the forward network

B. Optimize the error values according to the error rate

C. Both A and B

D. None

14. Suppose you have a dataset from where you have to predict three classes. Then which of the following configuration you should use in the output layer?

A. Activation function = softmax, loss function = cross entropy

B. Activation function = sigmoid, loss function = cross entropy

C. Activation function = softmax, loss function = mean squared error

D. Activation function = sigmoid, loss function = mean squared error

15. What is gradient descent?

A. Activation function

B. Loss function

C. Optimization algorithm

D. None

16. Which of the following activation function can not be used in the output layer of an image classification model?

A. ReLu

B. Softmax

C. Sigmoid

D. None

17. Which of the following is a correct order for the Convolutional Neural Network operation?

A. Convolution -> max pooling -> flattening -> full connection

B. Max pooling -> convolution -> flattening -> full connection

C. Flattening -> max pooling -> convolution -> full connection

D. None

18. Batch normalization helps to prevent-

A. activation functions to become too high or low

B. the training speed to become too slow

C. Both A and B

D. None

18. Which of the following is a correct order for the Convolutional Neural Network operation?

A. Convolution -> max pooling -> flattening -> full connection

B. Max pooling -> convolution -> flattening -> full connection

C. Flattening -> max pooling -> convolution -> full connection

D. None

19. In a neural network, which of the following causes the loss not to decrease faster?

A. Stuck at a local minima

B. High regularization parameter

C. Slow learning rate

D. All of the above

20. Which of the following is true about dropout?

A. Applied in the hidden layer nodes

B. Applied in the output layer nodes

C. Both A and B

D. None