Machine Learning

Artificial Intelligence

Deep Learning

QUIZ TOPIC - DEEP LEARNING

1. **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 ✔

2. **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 ✔

3. **Which of the following statement is not correct?**

- ○ A. Neural networks mimic the human brain
- ◉ B. It can only work for a single input and a single output ✔
- ○ C. It can be used in image processing
- ○ D. None

4. **Autoencoder is an example of-**

- ◉ A. Deep learning ✔
- ○ B. Machine learning
- ○ C. Data mining
- ○ D. None

5. **Which of the following deep learning models uses back propagation?**

- ○ A. Convolutional Neural Network
- ○ B. Multilayer Perceptron Network
- ◉ C. Recurrent Neural Network ✔
- ○ D. All of the above ✖

6. **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 ✔

7. **Neural networks can be used in-**

○ A. Regression problems
○ B. Classification problems
○ C. Clustering problems
◉ D. All of the above ✔

8. **In a classification problem, which of the following activation function is most widely used in the output layer of neural networks?**

◉ A. Sigmoid function ✔
○ B. Hyperbolic function
○ C. Rectifier function
○ D. All of the above

9. **Which of the following is a deep learning library?**

○ A. Tensorflow
○ B. Keras
○ C. PyTorch
◉ D. All of the above ✔

10. **Which of the following is true about bias?**

○ A. Bias is inherent in any predictive model
○ B. Bias impacts the output of the neurons
◉ C. Both A and B ✔
○ D. None

11. **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

12. **Which of the following is a loss function?**

○ A. Sigmoid function
◉ B. Cross entropy ✔
○ C. ReLu

○ D. All of the above

13. **Which of the following loss function is used in regression?**

○ A. Logarithmic loss

○ B. Cross entropy

◉ C. Mean squared error ✔

○ 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. **What does a gradient descent algorithm do?**

○ A. Tries to find the parameters of a model that minimizes the cost function

○ B. Adjusts the weights at the input layers

◉ C. Both A and B ✔

○ D. None

17. **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

18. **For a binary classification problem, which of the following activation function is used?**

- ○ A. ReLu
- ○ B. Softmax
- ◉ C. Sigmoid ✔
- ○ D. None

19. **Which of the following makes a neural network non-linear?**

- ○ A. Convolution function
- ○ B. Batch gradient descent
- ◉ C. Rectified linear unit ✔
- ○ D. All of the above

20. **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 ✔

21. **For an image classification task, which of the following deep learning algorithm is best suited?**

- ○ A. Recurrent Neural Network
- ○ B. Multi-Layer Perceptron
- ◉ C. Convolution Neural Network ✔
- ○ D. All of the above

22. **Suppose the number of nodes in the input layer is 5 and the hidden layer is 10. The maximum number of connections from the input layer to the hidden layer would be-**

- ○ A. More than 50
- ○ B. Less than 50
- ◉ C. 50 ✔
- ○ D. None

23. **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

24. **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

25. **Convolutional Neural Network is used in-**

- ( ) A. Image classification
- ( ) B. Text classification
- ( ) C. Computer vision
- (●) D. All of the above ✔

26. **Which of the following neural network model has a shared weight structure?**

- ( ) A. Recurrent Neural Network
- ( ) B. Convolution Neural Network
- (●) C. Both A and B ✔
- ( ) D. None

27. **LSTM is a variation of-**

- ( ) A. Convolutional Neural Network
- (●) B. Recurrent Neural Network ✔
- ( ) C. Multi Layer Perceptron Network
- ( ) D. None

28. **Which of the following neural networks is the best for machine translation?**

- ( ) A. 1D Convolutional Neural Network
- ( ) B. 2D Convolutional Neural Network
- (●) C. Recurrent Neural Network ✔
- ( ) D. None

29. **Which of the following neural networks has a memory?**

- ( ) A. 1D CNN
- ( ) B. 2D CNN
- (●) C. LSTM ✔
- ( ) D. None

30. **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