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Week 8 : Assignment 8

The due date for submitting this assignment has passed.

Due on 2024-09-18, 23:59 IST.

As per our records you have not submitted this assignment.

1) Which of the following activation functions is not zero-centered? ***1 point***

- [ ] Sigmoid
- [ ] Tanh
- [ ] ReLU
- [ ] Softmax

No, the answer is incorrect.
Score: 0

Accepted Answers:
Sigmoid
ReLU
Softmax

2) Which of the following activation functions is preferred to avoid the vanishing gradient problem? ***1 point***

- ( ) Sigmoid
- ( ) Tanh
- ( ) ReLU
- ( ) None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
ReLU

3) Given a neuron initialized with weights $w_1 = 1.5$, $w_2 = 0.5$, and inputs $x_1 = 0.2$, $x_2 = -0.5$, calculate the output of a ReLU neuron.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 0.05

1 point

4) What makes batch normalization effective in deep networks? ***1 point***

- [ ] It reduces the covariance shift
- [ ] It accelerates training
- [ ] It introduces regularization
- [ ] It reduces the internal shift in activations

No, the answer is incorrect.
Score: 0

Accepted Answers:
It reduces the covariance shift
It accelerates training
It reduces the internal shift in activations

5) Which of the following methods can help to avoid saturation in deep learning? ***1 point***

- ( ) Using a different activation function.
- ( ) Increasing the learning rate.
- ( ) Increasing the model complexity
- ( ) All of the above.

No, the answer is incorrect.
Score: 0

Accepted Answers:
Using a different activation function.

6) Which of the following is true about the role of unsupervised pre-training in deep learning? ***1 point***

- ( ) It is used to replace the need for labeled data
- ( ) It is used to initialize the weights of a deep neural network
- ( ) It is used to fine-tune a pre-trained model
- ( ) It is only useful for small datasets

No, the answer is incorrect.
Score: 0

Accepted Answers:
It is used to initialize the weights of a deep neural network

7) Which of the following is an advantage of unsupervised pre-training in deep learning? ***1 point***

- [ ] It helps in reducing overfitting
- [ ] Pre-trained models converge faster
- [ ] It improves the accuracy of the model

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- [ ] It requires fewer computational resources

No, the answer is incorrect.
Score: 0

Accepted Answers:
It helps in reducing overfitting
Pre-trained models converge faster
It improves the accuracy of the model

8) What is the main cause of the Dead ReLU problem in deep learning? ***1 point***

- ( ) High variance
- ( ) High negative bias
- ( ) Overfitting
- ( ) Underfitting

No, the answer is incorrect.
Score: 0

Accepted Answers:
High negative bias

9) How can you tell if your network is suffering from the Dead ReLU problem? ***1 point***

- ( ) The loss function is not decreasing during training
- ( ) The accuracy of the network is not improving
- ( ) A large number of neurons have zero output
- ( ) The network is overfitting to the training data

No, the answer is incorrect.
Score: 0

Accepted Answers:
A large number of neurons have zero output

10) What is the purpose of Batch Normalization in Deep Learning? ***1 point***

- ( ) To improve the generalization of the model
- ( ) To reduce overfitting
- ( ) To reduce bias in the model
- ( ) To ensure that the distribution of the inputs at different layers doesn't change

No, the answer is incorrect.
Score: 0

Accepted Answers:
To ensure that the distribution of the inputs at different layers doesn't change