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Quiz review

Started on	Wednesday, 13 March 2024, 3:21 PM
State	Finished
Completed on	Wednesday, 13 March 2024, 3:25 PM
Time taken	3 mins 27 secs
Marks	10.00/10.00
Grade	**100.00** out of 100.00

Question 1

Correct

Mark 1.00 out of 1.00

What is the primary purpose of backpropagation?

○ Data preprocessing

○ Initialization of weights

○ Activation of neurons

◉ Adjusting weights based on the error ✔

○ Forward propagation of data

The correct answer is: Adjusting weights based on the error

Question 2

Correct

Mark 1.00 out of 1.00

Which function introduces non-linearity in a neural network?

○ Weight Function

○ Linear Function

◉ Activation Function ✔

○ Bias Function

○ Loss Function

The correct answer is: Activation Function

Question 3

Correct

Mark 1.00 out of 1.00

In a neural network, what does a neuron compute?

○ The gradient of the loss

○ A fixed value

○ The error of the network

○ The learning rate

◉ A weighted sum followed by an activation function ✔

The correct answer is: A weighted sum followed by an activation function

Question 4

Correct

Mark 1.00 out of 1.00

Which of the following is NOT a layer type in a typical neural network?

○ Convolutional Layer

○ Input Layer

○ Output Layer

○ Hidden Layer

◉ Quantum Layer ✔

The correct answer is: Quantum Layer

Question 5

Correct

Mark 1.00 out of 1.00

How is a neural network's performance typically evaluated during training?

○ Using the activation functions

◉ Using a validation set ✔

○ Using the weights

○ Using the training data

○ Using the test data

The correct answer is: Using a validation set

Question 6

Correct

Mark 1.00 out of 1.00

In which type of ML does an agent learn by interacting with an environment?

- ○ Supervised Learning
- ○ Reinforcement Learning ✔
- ○ Regression
- ○ Clustering
- ○ Unsupervised Learning

The correct answer is: Reinforcement Learning

Question 7

Correct

Mark 1.00 out of 1.00

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Which of the following is a common activation function in neural networks?

- ○ Bias Activation
- ○ Polynomial Function
- ○ ReLU (Rectified Linear Unit) ✔
- ○ Linear Function
- ○ Weighted Sum

The correct answer is: ReLU (Rectified Linear Unit) 47562

Question 8

Correct

Mark 1.00 out of 1.00

Which application of ML is used to detect unusual patterns in data?

- ○ Clustering
- ○ Anomaly Detection ✔
- ○ Regression
- ○ Ranking
- ○ Classification

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The correct answer is: Anomaly Detection

Question 9

Correct

Mark 1.00 out of 1.00

What is the role of the loss function in training a neural network?

- ○ To define the network architecture
- ○ To introduce non-linearity
- ○ To initialize the weights
- ⦿ To quantify the difference between predicted and actual values ✔
- ○ To activate the neurons

The correct answer is: To quantify the difference between predicted and actual values

Question 10

Correct

Mark 1.00 out of 1.00

Which of the following is a challenge in training deep neural networks?

- ○ Small datasets
- ○ Too few neurons
- ○ All neurons activating at once
- ⦿ Vanishing/Exploding gradients ✔
- ○ Linear activation functions

The correct answer is: Vanishing/Exploding gradients

◄ **Fundamentals of Machine Learning and Neural Networks**

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