

Assignment-3 (Quiz) - Results



Attempt 1 of 2

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Attempt Score 2 / 2 - 100 %

Overall Grade (Highest Attempt) 2 / 2 - 100 %

Question 1

Suppose we are dealing with a classification problem in which a sample can belong to one of 5 possible output categories labeled from 0 through 4 (Python indexing style). Which one of the following is the correct one-hot encoded representation for a sample with output label 3?

- ☒ [0, 0, 0, 1, 0]
- ☐ [0, 0, 0, 0, 1]
- ☐ [0, 0, 1, 0, 1]
- ☐ [0, 0, 1, 0, 0]

Question 2

The CCE loss for a sample with correct probability vector [0, 1, 0] and predicted probability vector [0.75, 0.15, 0.1] is _____.

- ☐ $-\log(0.85)$
- ☐ $-\log(0.75)$
- ☐ $-\log(0.1)$
- ☒ $-\log(0.15)$

Question 3

Suppose we apply a softmax classifier for a classification problem with 10 possible output categories. What is the shape of the gradient $\nabla_{\mathbf{z}} (\text{softmax}(\mathbf{z}))$?

- ☐ 9 x 9
- ☐ 11 x 11

- ✓ ☒ 10 x 10
- ☐ 10 x 11

Question 4

Which one of the following activation functions results in mean-centered activated values?

- ☐ Sigmoid
- ☐ Leaky ReLU
- ✓ ☒ tanh
- ☐ ReLU

Question 5

Suppose we use a single hidden layer neural network for a classification problem with 10 features per sample. If there are 6 nodes in the dense layer of the hidden layer, what is the shape of the weights matrix $\mathbf{W}^{[1]}$ if we ignore the bias feature?

- ☐ 6 x 11
- ☐ 11 x 6
- ☐ 10 x 6
- ✓ ☒ 6 x 10

Done