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Quiz 10

Problem 1

1/1 point (graded)

True or false: Autoencoding is a destructive process, meaning that it is not possible to get an approximation to the original data point given its latent representation.

☐ True

☒ False



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Problem 2

1/1 point (graded)

For the k -means autoencoder, what is the hidden representation of the data that we hope to reveal?

☐ The projection for a data point onto a different vector

☐ The location of the mean for the cluster that each data point belongs to

☒ The cluster label that each data point belongs to

☐ The squared distance from each data point to its mean



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Problem 3

1/1 point (graded)

What is a “one-hot” encoding?

☐ An encoding that cannot be changed as other encodings depend on it

☐ An encoding that makes a single pass over the data set

☒ An encoding which produces a vector where a single element is 1, and the rest are all 0

☐ A trivial encoding where every data point is mapped to the same value



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Problem 4

1/1 point (graded)

What kind of relationship between words is captured by co-occurrence probabilities?

☐ Words with similar frequencies are closely related

☐ Words of similar length are closely related

☒ Words which are preceded or succeeded by similar words are closely related

☐ Words with similar spelling are closely related



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Problem 5

1/1 point (graded)

In a feedforward neural net, nodes which aren't input nodes or output nodes are called what?

☒ Hidden units

☐ Middle units

☐ Floating nodes

☐ Intermediary nodes



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Problem 6

1/1 point (graded)

True or false: Each layer of the feedforward neural net must be calculated sequentially as the values of any non-input row are calculated from the values of previous rows.

☒ True

☐ False

Problem 7

1/1 point (graded)

You have a neural network with three fully connected layers, each containing 800 nodes. Approximately how many total edges does this graph have?

☐ 800☐ 2400☒ 1280000☐ 512000000

Problem 8

1/1 point (graded)

The loss function for the neural network can best be described as convex, concave, both, or neither?

☐ convex☐ concave

☐ both☒ neither

Problem 9

1/1 point (graded)

Which of the following algorithms would be acceptable to use to optimize the loss function of a very large neural network?

☐ Gradient descent☒ Stochastic gradient descent☒ Mini-batch stochastic gradient descent

Problem 10

1/1 point (graded)

True or false: Dropout is used with neural networks to reduce the time and space complexity of the model.

☐ True☒ False



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