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

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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

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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

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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
- [x] Stochastic gradient descent
- [x] Mini-batch stochastic gradient descent

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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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