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Graded Assignment
Practical Aspects of Deep Learning

⚠️
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Assignment details

Due

May 4, 11:59 PM +07May 4, 11:59 PM +07

Attempts

3 left (3 attempts every 24 hours)

Submitted

March 10, 4:12 PM +07Mar 10, 4:12 PM +07

Time limit

50 minutes per attempt50 min per attempt

Submissions

1 left (1 total within the time limit)

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100%

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Practical Aspects of Deep Learning

Graded Assignment • 50 min

🌐 English ⌄

DueMay 4, 11:59 PM +07

1.

Question 1

If you have 10,000 examples, how would you split the train/dev/test set? Choose the best option.

⊙ ◯

98% train. 1% dev. 1% test.

◉ ◉

60% train. 20% dev. 20% test.

◯ ◯

33% train. 33% dev. 33% test.

1 point

2.

Question 2

When designing a neural network to detect if a house cat is present in the picture, 500,000 pictures of cats were taken by their owners. **These are used to make the training, dev and test sets.** It is decided that to increase the size of the test set, 10,000 new images of cats taken from security cameras are going to be used in the test set. Which of the following is true?

◯ ◯

This will reduce the bias of the model and help improve it.

◯ ◯

This will increase the bias of the model so the new images shouldn't be used.

◉ ◉

This will be harmful to the project since now dev and test sets have different distributions.

1 point

3.

Question 3

If your Neural Network model seems to have high variance, what of the following would be promising things to try?

☑✓

Get more training data

☑✓

Add regularization

☐☐

Make the Neural Network deeper

☐☐

Increase the number of units in each hidden layer

☐☐

Get more test data

1 point

4.

Question 4

Your classifier for bananas and oranges gets a training set error of 0.1% and a development set error of 11%.

Which of the following statements are true? (Check all that apply.)

☐☐

The model is overfitting the development set.

☑✓

The model is overfitting the training set.

☐☐

The model has a very high bias.

☑✓

The model has a high variance.

1 point

5.

Question 5

Which of the following are regularization techniques?

☑ ✓

Dropout.

☐ ☐

Gradient Checking.

☑ ✓

Weight decay.

☐ ☐

Increase the number of layers of the network.

1 point

6.

Question 6

What happens when you increase the regularization hyperparameter lambda?

◯ ◯

Doubling lambda should roughly result in doubling the weights

◉ ◉

Weights are pushed toward becoming smaller (closer to 0)

◯ ◯

Weights are pushed toward becoming bigger (further from 0)

◯ ◯

Gradient descent taking bigger steps with each iteration (proportional to lambda)

1 point

7.

Question 7

Which of the following are true about dropout?

☑ ✓

In practice, it eliminates units of each layer with a probability of 1- keep_prob.

☑ ✓

t helps to reduce the variance of a model.

☐ ◻

n practice, it eliminates units of each layer with a probability of keep_prob.

☐ ◻

t helps to reduce the bias of a model.

1 point

8.

Question 8

During training a deep neural network that uses the tanh activation function, the value of the gradients is practically zero. Which of the following is most likely to help the vanishing gradient problem?

◯ ◯

ncrease the number of layers of the network.

◯ ◯

Jse a larger regularization parameter.

◯ ◯

ncrease the number of cycles during the training.

◉ ◉

Jse Xavier initialization.

1 point

9.

Question 9

Which of the following actions increase the regularization of a model? (Check all that apply)

☐ ◻

ncrease the value of keep_prob in dropout.

☐ ◻

Jse Xavier initialization.

☑ ☑

ncrease the value of the hyperparameter lambda.

☐ ☐

Decrease the value of the hyperparameter lambda.

☑ ☑

Decrease the value of keep_prob in dropout.

1 point

10.

Question 10

Why do we normalize the inputs xx?

◯ ◯

t makes the parameter initialization faster

◯ ◯

t makes it easier to visualize the data

◯ ◯

Normalization is another word for regularization--It helps to reduce variance

⦿ ⦿

t makes the cost function faster to optimize

1 point