

Practical aspects of deep learning

10/10 points (100.00%)

Quiz, 10 questions

 **Congratulations! You passed!**[Next Item](#)1 / 1
points

1.

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



98% train . 1% dev . 1% test

**Correct**

60% train . 20% dev . 20% test



33% train . 33% dev . 33% test

1 / 1
points

2.

The dev and test set should:



Come from the same distribution

**Correct**

Come from different distributions



Be identical to each other (same (x,y) pairs)

**Have the same number of examples**

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3.

If your Neural Network model seems to have high bias, what of the following would be promising things to try? (Check all that apply.)

☐

Get more test data

**Un-selected is correct**☐

Increase the number of units in each hidden layer

**Correct**☐

Get more training data

**Un-selected is correct**☐

Add regularization

**Un-selected is correct**☐

Make the Neural Network deeper

**Correct**1 / 1
points

4.

You are working on an automated check-out kiosk for a supermarket, and are building a classifier for apples, bananas and oranges. Suppose your classifier obtains a training set error of 0.5%, and a dev set error of 7%. Which of the following are promising things to try to improve your classifier? (Check all that apply.)

☐

Increase the regularization parameter lambda



Correct

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Decrease the regularization parameter lambda

**Un-selected is correct**

Get more training data

**Correct**

Use a bigger neural network

**Un-selected is correct**1 / 1
points

5.

What is weight decay?



The process of gradually decreasing the learning rate during training.



A technique to avoid vanishing gradient by imposing a ceiling on the values of the weights.



A regularization technique (such as L2 regularization) that results in gradient descent shrinking the weights on every iteration.

**Correct**

Gradual corruption of the weights in the neural network if it is trained on noisy data.

1 / 1
points

6.

What happens when you increase the regularization hyperparameter lambda?



Weights are pushed toward becoming smaller (closer to 0)



Correct

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- ☒ Weights are pushed toward becoming bigger (further from 0)
- ☐ Doubling lambda should roughly result in doubling the weights
- ☐ Gradient descent taking bigger steps with each iteration (proportional to lambda)
-

1 / 1
points

7.

With the inverted dropout technique, at test time:

- ☐ You apply dropout (randomly eliminating units) and do not keep the $1/\text{keep_prob}$ factor in the calculations used in training
- ☐ You apply dropout (randomly eliminating units) but keep the $1/\text{keep_prob}$ factor in the calculations used in training.
- ☐ You do not apply dropout (do not randomly eliminate units), but keep the $1/\text{keep_prob}$ factor in the calculations used in training.
- ☒ You do not apply dropout (do not randomly eliminate units) and do not keep the $1/\text{keep_prob}$ factor in the calculations used in training

Correct1 / 1
points

8.

Increasing the parameter `keep_prob` from (say) 0.5 to 0.6 will likely cause the following: (Check the two that apply)

- ☐ Increasing the regularization effect

Un-selected is correct

- ☐ Reducing the regularization effect

Correct

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Causing the neural network to end up with a higher training set error

10/10 points (100.00%)

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Un-selected is correct



Causing the neural network to end up with a lower training set error

Correct



1 / 1
points

9.

Which of these techniques are useful for reducing variance (reducing overfitting)? (Check all that apply.)



Exploding gradient

Un-selected is correct



Data augmentation

Correct



Xavier initialization

Un-selected is correct



Gradient Checking

Un-selected is correct



Vanishing gradient


Un-selected is correct



Dropout

Correct

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 L2 regularization**Correct**1 / 1
points

10.

Why do we normalize the inputs x ?

It makes the cost function faster to optimize

Correct

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



It makes the parameter initialization faster



It makes it easier to visualize the data

