

# Practical aspects of deep learning

Quiz, 10 questions

✓ **Congratulations! You passed!**

Next Item



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points

1.

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

- ☐ 60% train . 20% dev . 20% test
- ☐ 33% train . 33% dev . 33% test
- ☒ 98% train . 1% dev . 1% test

Correct



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**

## Practical aspects of deep learning

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3.

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

☐

Make the Neural Network deeper



Un-selected is correct

☐

Add regularization



Correct

☐

Get more test data



Un-selected is correct

☐

Increase the number of units in each hidden layer



Un-selected is correct

☐

Get more training data



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

☐

Decrease the regularization parameter  $\lambda$



Un-selected is correct

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**Correct**



Use a bigger neural network

**Un-selected is correct**



1 / 1  
points

5.

What is weight decay?

- ☐ A technique to avoid vanishing gradient by imposing a ceiling on the values of the weights.
- ☐ Gradual corruption of the weights in the neural network if it is trained on noisy data.
- ☐ The process of gradually decreasing the learning rate during training.
- ☒ A regularization technique (such as L2 regularization) that results in gradient descent shrinking the weights on every iteration.

**Correct**



1 / 1  
points

6.

What happens when you increase the regularization hyperparameter lambda?

- ☒ Weights are pushed toward becoming smaller (closer to 0)
- ☐ 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)

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With the inverted dropout technique, at test time:

- ☒ 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

Correct

- ☐ 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 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.



1 / 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

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

Un-selected is correct

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

Correct

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

☐ L2 regularization



Correct

☐ Exploding gradient



Un-selected is correct

☐ Vanishing gradient



Un-selected is correct

☐ Dropout



Correct

☐ Data augmentation



Correct

☐ Xavier initialization



Un-selected is correct

☐ Gradient Checking



Un-selected is correct



1 / 1  
points

10. Why do we normalize the inputs  $x$ ?

☐ It makes the parameter initialization faster

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**Correct**

☐ It makes it easier to visualize the data

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