

Practical aspects of deep learning

Quiz, 10 questions

8/10 points (80.00%)

✓ **Congratulations! You passed!**

Next Item



1 / 1
point

1.

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



33% train . 33% dev . 33% test



98% train . 1% dev . 1% test



Correct



60% train . 20% dev . 20% test



1 / 1
point

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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8/10 points (80.00%)

Quiz, 10 questions

0 / 1
point

3.

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



Add regularization

**Correct**

Make the Neural Network deeper

**Un-selected is correct**

Increase the number of units in each hidden layer

**Un-selected is correct**

Get more training data

**Correct**

Get more test data

**This should not be selected**1 / 1
point

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**

Practical aspects of deep learning

Quiz, 10 questions

8/10 points (80.00%)



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
point

5.

What is weight decay?



The process of gradually decreasing the learning rate during training.



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



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



1 / 1
point

6.

What happens when you increase the regularization hyperparameter lambda?



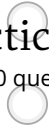
Weights are pushed toward becoming smaller (closer to 0)

Correct

Practical aspects of deep learning

Quiz, 10 questions

8/10 points (80.00%)



Weights are pushed toward becoming bigger (further from 0)



Doubling lambda should roughly result in doubling the weights



1 / 1
point

7.

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



1 / 1
point

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



Practical aspects of deep learning

Quiz, 10 questions

8/10 points (80.00%)



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

Correct



1 / 1
point

9.

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



Dropout

Correct



L2 regularization

Correct



Vanishing gradient

Un-selected is correct



Xavier initialization

Un-selected is correct



Gradient Checking

Un-selected is correct



Data augmentation

Correct



Exploding gradient

Practical aspects of deep learning

Quiz, 10 questions

8/10 points (80.00%)



0 / 1
point

10.

Why do we normalize the inputs x ?



It makes the cost function faster to optimize



It makes it easier to visualize the data



This should not be selected



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



It makes the parameter initialization faster

