



With the inverted dropout technique, at test time:

- ☐ You apply dropout (randomly eliminating 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 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

Correct





# Review

## Question 8/10

✓ 1.00/1.00 points

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



Reducing the regularization effect



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



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

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# Review

## Question 9/10

✓ 1.00/1.00 points

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



Exploding gradient



L2 regularization



Xavier initialization



Data augmentation



Vanishing gradient



Gradient Checking

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## Review

Question 10/10

✓ 1.00/1.00 points

Why do we normalize the inputs  $x$ ?

- ☐ It makes it easier to visualize the data
- ☐ It makes the parameter initialization faster
- ☐ Normalization is another word for regularization--It helps to reduce variance
- ☒ It makes the cost function faster to optimize

NEXT ITEM



## Review

### Question 6/10

✓ 1.00/1.00 points

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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## Review

### Question 5/10

✓ 1.00/1.00 points

What is weight decay?

- ☐ 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 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.

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# Review

## Question 4/10

✓ 1.00/1.00 points

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  $\lambda$



Decrease the regularization parameter  $\lambda$



Get more training data

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# Review

## Question 3/10

✓ 1.00/1.00 points

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



Add regularization



Get more test data



Get more training data



Make the Neural Network deeper



Increase the number of units in each hidden layer

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## Review

Question 2/10

✓ 1.00/1.00 points

The dev and test set should:

- ☒ Come from the same distribution
- ☐ Come from different distributions
- ☐ Be identical to each other (same (x,y) pairs)
- ☐ Have the same number of examples

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# Review

## Question 1/10

✓ 1.00/1.00 points

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

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

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