

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

1 / 1 point

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

 Expand

 Correct

2. The dev and test set should:

1 / 1 point

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

 Expand

 Correct

3. A model developed for a project is presenting high bias. One of the sponsors of the project offers some resources that might help reduce the bias. Which of the following additional resources has a better chance to help reduce the bias?

0 / 1 point

- ☒ Gather more data for the project.
- ☐ Give access to more computational resources like GPUs.
- ☐ Use different sources to gather data and better test the model.

 Expand



No. More data won't reduce the bias.

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.)

1 / 1 point

☒ Increase the regularization parameter lambda

✓ Correct

☐ Decrease the regularization parameter lambda

☒ Get more training data

✓ Correct

☐ Use a bigger neural network

↗ Expand



Great, you got all the right answers.

5. Which of the following are regularization techniques?

1 / 1 point

☒ Dropout.

✓ Correct

Correct. Using dropout layers is a regularization technique.

☒ Weight decay.

✓ Correct

Correct. Weight decay is a form of regularization.

☐ Gradient Checking.

☐ Increase the number of layers of the network.

↗ Expand



Great, you got all the right answers.

6. The regularization hyperparameter must be set to zero during testing to avoid getting random results. True/False?

1 / 1 point

☐ True

☒ False

 Expand

 **Correct**

Correct. The regularization parameter affects how the weights change during training, this means during backpropagation. It has no effect during the forward propagation that is when predictions for the test are made.

7. Which of the following are true about dropout?

1 / 1 point

☒ In practice, it eliminates units of each layer with a probability of $1 - \text{keep_prob}$.

 **Correct**

Correct. The dropout is a regularization technique and thus helps to reduce the overfit.

☒ It helps to reduce the variance of a model.

 **Correct**

Correct. The dropout is a regularization technique and thus helps to reduce the variance.

☐ It helps to reduce the bias of a model.

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

 Expand

 **Correct**

Great, you got all the right answers.

8. Decreasing the parameter `keep_prob` from (say) 0.6 to 0.4 will likely cause the following:

1 / 1 point

☐ Reducing the regularization effect.

☒ Increasing the regularization effect.

☐ Causing the neural network to have a higher variance.

 Expand

 **Correct**

Correct. This will make the dropout have a higher probability of eliminating a node in the neural network, increasing the regularization effect.

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

0 / 1 point

☐ Decrease the value of the hyperparameter lambda.

☒ Normalizing the data.

! This should not be selected

Incorrect. Data normalization doesn't affect the variance of the model.

☒ Increase the value of keep_prob in dropout.

! This should not be selected

Incorrect. When increasing the keep_prob value the probability that a node gets discarded during training is less thus reducing the regularization effect.

☒ Increase the value of the hyperparameter lambda.

✓ Correct

Correct. When increasing the hyperparameter lambda we increase the effect of the L₂ penalization.

☐ Make use of data augmentation.

↗ Expand

✗ Incorrect

You didn't select all the correct answers

10. Why do we normalize the inputs x ?

1 / 1 point

☐ It makes the parameter initialization faster

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

☐ It makes it easier to visualize the data

☒ It makes the cost function faster to optimize

↗ Expand

✓ Correct