Congratulations! You passed!

Grade received 80% **Latest Submission Grade** 80% **To pass** 80% or higher

Go to next item

1. If you have 10,000 examples, how would you split the train/dev/test set? Choose the best option. **1 / 1 point**

- 98% train. 1% dev. 1% test.
- (•) 60% train. 20% dev. 20% test.
- 33% train. 33% dev. 33% test.

Expand

Correct

Yes. This might be considered a small data set, not in the range of big data. Thus a more classical (old) best practice should be used.

2. The dev and test set should:

1 / 1 point

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

Expand

Correct

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.)

1 / 1 point

- [x] Make the Neural Network deeper

  ✓ **Correct**

- [ ] Add regularization

- [x] Increase the number of units in each hidden layer

  ✓ **Correct**

- [ ] Get more training data

Expand

Correct
Great, you got all the right answers.

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

- [x] Increase the regularization parameter lambda

  ✓ **Correct**

- [ ] Decrease the regularization parameter lambda

- [x] Get more training data

  ✓ **Correct**

- [ ] Use a bigger neural network

Expand

Correct
Great, you got all the right answers.

5. Which of the following are regularization techniques? **1 / 1 point**

- [ ] Gradient Checking.
- [x] Dropout.

✓ **Correct**

Correct. Using dropout layers is a regularization technique.

- [x] Weight decay.

✓ **Correct**

Correct. Weight decay is a form of regularization.

- [ ] Increase the number of layers of the network.

Expand

Correct
Great, you got all the right answers.

6. To reduce high variance, the regularization hyperparameter lambda must be increased. True/False? **1 / 1 point**

- False
- True

Expand

Correct
Correct. By increasing the regularization parameter the magnitude of the weight parameters is reduced. This helps reduce the variance.

7. Which of the following are true about dropout? **1 / 1 point**

- [x] In practice, it eliminates units of each layer with a probability of 1- keep_prob.

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

- [x] It helps to reduce the variance of a model.

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

- [ ] In practice, it eliminates units of each layer with a probability of keep_prob.

- [ ] It helps to reduce the bias of a model.

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:

0 / 1 point

- Causing the neural network to have a higher variance.
- Increasing the regularization effect.
- Reducing the regularization effect.

Expand

Incorrect
Incorrect. 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

- [x] Normalizing the data.

  ! **This should not be selected**

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

- [x] Increase the value of the hyperparameter lambda.

  ✓ **Correct**

  Correct. When increasing the hyperparameter lambda we increase the effect of the L_2 penalization.

- [ ] Increase the value of keep_prob in dropout.

- [x] Make use of data augmentation.

  ✓ **Correct**

  Correct. Data augmentation has a way to generate "new" data at a relatively low cost. Thus making use of data augmentation can reduce the variance.

- [ ] Decrease the value of the hyperparameter lambda.

Expand

Incorrect

You chose the extra incorrect answers.

10. Why do we normalize the inputs x?

1 / 1 point

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

Expand

Correct