✓ **Congratulations! You passed!**
TO PASS 80% or higher

Keep Learning

GRADE
100%

Practical aspects of deep learning

LATEST SUBMISSION GRADE

100%

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

   1 / 1 point

   ○ 33% train . 33% dev . 33% test

   ● 98% train . 1% dev . 1% test

   ○ 60% train . 20% dev . 20% test

   ✓ Correct

2. The dev and test set should:

   1 / 1 point

   ● Come from the same distribution

   ○ Come from different distributions

   ○ Be identical to each other (same (x,y) pairs)

   ○ **Have the same number of examples**

   ✓ Correct

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

   1 / 1 point

   ☑ Add regularization

   ✓ Correct

   ☐ Increase the number of units in each hidden layer

   ☑ Get more training data

   ✓ Correct

   ☐ Get more test data

   ☐ Make the Neural Network deeper

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

5. What is weight decay? **1 / 1 point**

    ○ 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.

    ○ 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.

    ✓ **Correct**

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6. What happens when you increase the regularization hyperparameter lambda? **1 / 1 point**

    ◉ 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)

    ✓ **Correct**

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7. With the inverted dropout technique, at test time: **1 / 1 point**

    ◉ You do not apply dropout (do not randomly eliminate units) and do not keep the 1/keep_prob factor in the calculations used in training

    ○ You apply dropout (randomly eliminating units) but keep the 1/keep_prob factor in the calculations used in training.

    ○ You apply dropout (randomly eliminating units) and do not keep the 1/keep_prob factor in the calculations used in training

    ○ You do not apply dropout (do not randomly eliminate units), but keep the 1/keep_prob factor in the calculations used in training.

    ✓ **Correct**

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8. Increasing the parameter keep_prob from (say) 0.5 to 0.6 will likely cause the following: (Check the two that apply) **1 / 1 point**

    ☐ Increasing the regularization effect

    ☑ Reducing the regularization effect

    ✓ **Correct**

    ☐ 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

    ✓ **Correct**

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9. Which of these techniques are useful for reducing variance (reducing overfitting)? (Check all that apply.) **1 / 1 point**

    ☑ L2 regularization

    ✓ **Correct**

    ☐ Vanishing gradient

    ☑ Dropout

    ✓ **Correct**

    ☐ Gradient Checking

    ☑ Data augmentation

    ✓ **Correct**

☐ Exploding gradient

☐ Xavier initialization

10. Why do we normalize the inputs x? **1 / 1 point**

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

○ It makes it easier to visualize the data

○ It makes the parameter initialization faster

⦿ It makes the cost function faster to optimize

✓ **Correct**

☐ Exploding gradient

☐ Xavier initialization

10. Why do we normalize the inputs x? **1 / 1 point**

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