Practical aspects of deep learning

Quiz, 10 questions

9/10 points (90.00%)

✔ **Congratulations! You passed!**

Next Item

✔ 1 / 1
points

1.

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

○ 60% train . 20% dev . 20% test

◉ 98% train . 1% dev . 1% test

Correct

○ 33% train . 33% dev . 33% test

✔ 1 / 1
points

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**

✓ **1 / 1**
   points

Practical aspects of deep learning   **9/10 points (90.00%)**

3.

Quiz, 10 questions

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

☐ Get more training data

Correct

☐ Make the Neural Network deeper

Un-selected is correct

☐ Add regularization

Correct

☐ Get more test data

Un-selected is correct

☐ Increase the number of units in each hidden layer

Un-selected is correct

✓ **1 / 1**
   points

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

☐ Decrease the regularization parameter lambda

Un-selected is correct

☐   Get more training data

Practical aspects of deep learning

Correct

Quiz, 10 questions

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☐   Use a bigger neural network

Un-selected is correct

✔   1 / 1 points

5.
What is weight decay?

○   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

○   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.

✔   1 / 1 points

6.
What happens when you increase the regularization hyperparameter lambda?

◉   Weights are pushed toward becoming smaller (closer to 0)

Correct

○   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)

✔   1 / 1 points

7.

Practical aspects of deep learning

With the inverted dropout technique, at test time: **9/10 points (90.00%)**

Quiz, 10 questions

○   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

▲

Correct

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

✗   0 / 1
       points

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

▲

Un-selected is correct

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

▲

This should be selected

✓   1 / 1
       points

9.

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

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9/10 points (90.00%)

☐ Vanishing gradient

Un-selected is correct

☐ Gradient Checking

Un-selected is correct

☐ Xavier initialization

Un-selected is correct

☐ Dropout

Correct

☐ Data augmentation

Correct

☐ L2 regularization

Correct

☐ Exploding gradient

Un-selected is correct

✔ 1 / 1 points

10.

Why do we normalize the inputs x?

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

○ It makes the cost function faster to optimize

Correct

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It makes it easier to visualize the data

Quiz, 10 questions

It makes the parameter initialization faster

It makes it easier to visualize the data

It makes the parameter initialization faster