Due Dec 28, 1:59 AM CST

Setting up your Machine **Learning Application** Regularizing your neural network Setting up your optimization problem **Practice Questions** Quiz: Practical aspects of deep learning 10 questions Programming assignments **Heroes of Deep Learning**

(Optional)

Practical aspects of deep learning | Coursera ✓ Congratulations! You passed! 100% Keep Learning QUIZ • 30 MIN TO PASS 80% or higher Practical aspects of deep learning Get closer to your goal Practical aspects of deep learning You are 88% more likely to complete the course if you LATEST SUBMISSION GRADE finish the assignment 1. If you have 10,000,000 examples, how would you split the train/dev/test set? 1 / 1 point Submit your assignment Try again **DUE DATE** Dec 28, 1:59 AM CST **ATTEMPTS** 3 every 8 hours O 60% train . 20% dev . 20% test Receive grade Grade 33% train . 33% dev . 33% test View Feedback TO PASS 80% or higher 98% train . 1% dev . 1% test We keep your highest score Correct **6 ? P** 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 bias, what of the following would be promising things to try? (Check all 1/1 point that apply.) Make the Neural Network deeper ✓ Correct Increase the number of units in each hidden layer Correct Get more training data Add regularization Get more test data 4. You are working on an automated check-out kiosk for a supermarket, and are building a classifier for apples, bananas and 1/1 point 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 Get more training data ✓ Correct Use a bigger neural network 5. What is weight decay? 1 / 1 point Gradual corruption of the weights in the neural network if it is trained on noisy data. A regularization technique (such as L2 regularization) that results in gradient descent shrinking the weights on every 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. ✓ Correct 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) Oubling lambda should roughly result in doubling the weights Gradient descent taking bigger steps with each iteration (proportional to lambda) ✓ Correct 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 do not apply dropout (do not randomly eliminate units), but keep the 1/keep_prob factor in the calculations You apply dropout (randomly eliminating units) and do not keep the 1/keep_prob factor in the calculations used in 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 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 9. Which of these techniques are useful for reducing variance (reducing overfitting)? (Check all that apply.) 1 / 1 point L2 regularization ✓ Correct Gradient Checking Xavier initialization Dropout ✓ Correct Vanishing gradient Data augmentation

Correct

Exploding gradient

Correct

10. Why do we normalize the inputs x?

It makes it easier to visualize the data

It makes the parameter initialization faster

It makes the cost function faster to optimize

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

1 / 1 point

https://www.coursera.org/learn/deep-neural-network/exam/B9JXg/practical-aspects-of-deep-learning/view-attempt