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* Vijay Misra

1. [Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization](https://www.coursera.org/learn/deep-neural-network/home/welcome)
2. [Week 1](https://www.coursera.org/learn/deep-neural-network/home/week/1)
3. Practical aspects of Deep Learning

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* **Setting up your Machine Learning Application**
* **Connect with your Mentors and Fellow Learners on Discourse!**
* **Regularizing your Neural Network**
* **Setting Up your Optimization Problem**
* **Lecture Notes (Optional)**
* **Quiz**

**[Quiz:](https://www.coursera.org/learn/deep-neural-network/exam/B9JXg/practical-aspects-of-deep-learning)**[Practical aspects of Deep Learning](https://www.coursera.org/learn/deep-neural-network/exam/B9JXg/practical-aspects-of-deep-learning)

[10 questions](https://www.coursera.org/learn/deep-neural-network/exam/B9JXg/practical-aspects-of-deep-learning)

* **Programming Assignments**
* **Heroes of Deep Learning (Optional)**

**QUIZQuiz • 20 MIN20 minutes**

**Practical aspects of Deep Learning**

**Submit your assignment**

**DUE DATE**May 9, 11:59 PM PDTMay 9, 11:59 PM PDT

**ATTEMPTS**3 every 8 hours

Try again

**Receive grade**

**TO PASS**80% or higher

**Grade**

85.50%

View Feedback

We keep your highest score

Practical aspects of Deep Learning

Graded Quiz • 20 min

**Due** May 9, 11:59 PM PDT

**Congratulations! You passed!**

**TO PASS**80% or higher

Keep Learning

**GRADE**

85.50%

**Practical aspects of Deep Learning**

**LATEST SUBMISSION GRADE**

85.5%

1.

Question 1

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

**1 / 1 point**



60% train . 20% dev . 20% test



98% train . 1% dev . 1% test



33% train . 33% dev . 33% test

**Correct**

2.

Question 2

The dev and test set should:

**1 / 1 point**



Have the same number of examples



Come from the same distribution



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



Come from different distributions

**Correct**

3.

Question 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.)

**0.8 / 1 point**



Get more test data



Add regularization



Make the Neural Network deeper

**Correct**



Get more training data



Increase the number of units in each hidden layer

You didn’t select all the correct answers

4.

Question 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.

Question 5

What is weight decay?

**1 / 1 point**



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.



Gradual corruption of the weights in the neural network if it is trained on noisy data.



The process of gradually decreasing the learning rate during training.

**Correct**

6.

Question 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)



Gradient descent taking bigger steps with each iteration (proportional to lambda)



Doubling lambda should roughly result in doubling the weights

**Correct**

7.

Question 7

With the inverted dropout technique, at test time:

**0 / 1 point**



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 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.

**Incorrect**

8.

Question 8

Increasing the parameter keep\_prob from (say) 0.5 to 0.6 will likely cause the following: (Check the two that apply)

**0.75 / 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

You didn’t select all the correct answers

9.

Question 9

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

**1 / 1 point**



Xavier initialization



Gradient Checking



L2 regularization

**Correct**



Dropout

**Correct**



Exploding gradient



Vanishing gradient



Data augmentation

**Correct**

10.

Question 10

Why do we normalize the inputs x*x*?

**1 / 1 point**



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



It makes the cost function faster to optimize



It makes it easier to visualize the data



It makes the parameter initialization faster

**Correct**