Graded Quiz • 50 min

## ▲ Try again once you are ready

**Grade received 70%** Latest Submission Grade 50% To pass 80% or higher

**Try again** 

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

- 98% train. 1% dev. 1% test.
- 60% train. 20% dev. 20% test.
- 33% train. 33% dev. 33% test.





No. 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. In a personal experiment, an M.L. student decides to not use a test set, only train-dev sets. In this case which of the following is true?

1/1 point

- He won't be able to measure the variance of the model.
- Not having a test set is unacceptable under any circumstance.
- He might be overfitting to the dev set.
- He won't be able to measure the bias of the model.

∠ Z Expand

✓ Correct

Yes. Although not recommended, if a more accurate measure of the performance is not necessary it is ok to not use a test set. However, this might cause an overfit to the dev set.





## × Incorrect

Incorrect. In most cases, it is recommended to not use dropout if there is no overfit. Although in computer vision, due to the nature of the data, it is the default practice.

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

- Weights are pushed toward becoming smaller (closer to 0)
- Oubling lambda should roughly result in doubling the weights
- Gradient descent taking bigger steps with each iteration (proportional to lambda)
- Weights are pushed toward becoming bigger (further from 0)



7. Which of the following are true about dropout?

0/1 point

- In practice, it eliminates units of each layer with a probability of 1- keep\_prob.
- It helps to reduce the bias of a model.
- In practice, it eliminates units of each layer with a probability of keep\_prob.
  - Incorrect. The probability that dropout doesn't eliminate a neuron is keep\_prob.
- It helps to reduce overfitting.

## ✓ Correct

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





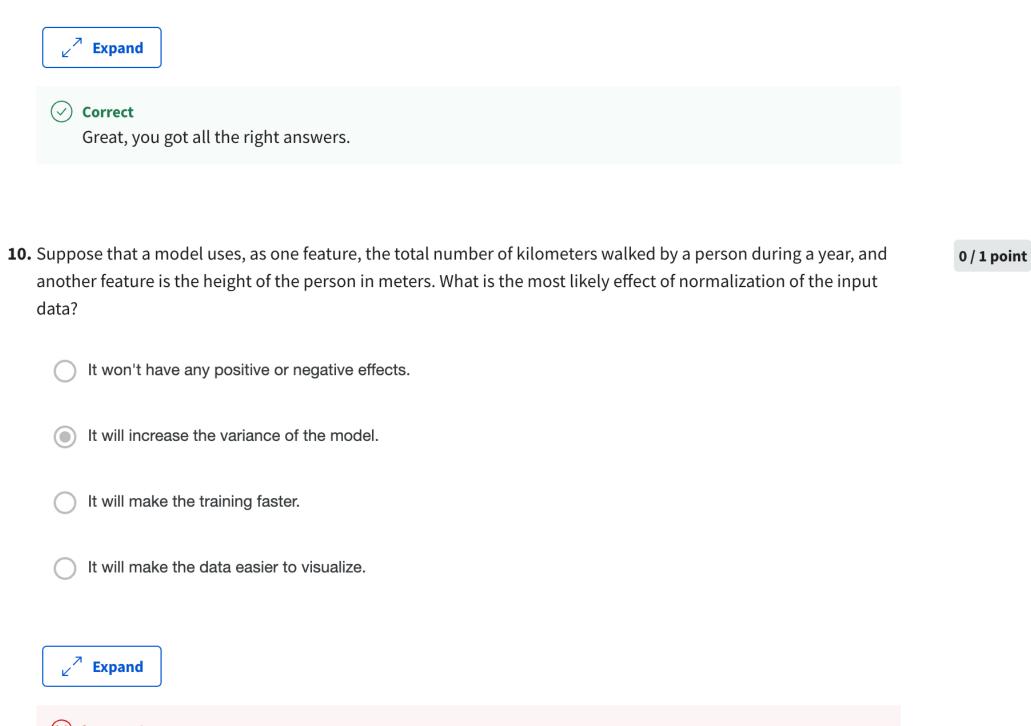
∠ Z Expand

You didn't select all the correct answers

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

$\overline{}$	Great, you got all the right answers.	
Which	of the following actions increase the regularization of a model? (Check all that apply)	1/1
	Increase the value of keep_prob in dropout.	
<b>~</b>	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.	
<b>~</b>	Increase the value of the hyperparameter lambda.	
~	Correct  Correct. When increasing the hyperparameter lambda we increase the effect of the L_2 penalization.	
	Normalizing the data.	

9.



Incorrect

Incorrect. Normalization won't affect the variance of the model.