1.

## Congratulations! You passed!

**Grade received** 100% **Latest Submission Grade** 100% **To pass** 80% or higher

Go to next item

1/1 point

In the context of machine learning, what is a diagnostic?

- A test that you run to gain insight into what is/isn't working with a learning algorithm.
- An application of machine learning to medical applications, with the goal of diagnosing patients' conditions.
- This refers to the process of measuring how well a learning algorithm does on a test set (data that the algorithm was not trained on).
- A process by which we quickly try as many different ways to improve an algorithm as possible, so as to see what works.

Yes! A diagnostic is a test that you run to gain insight into what is/isn't working with a learning algorithm, to gain guidance into improving its performance.

2.

1/1 point

True/False? It is always true that the better an algorithm does on the training set, the better it will do on generalizing to new data.

- O True
- False
  - **⊘** Correct

Actually, if a model overfits the training set, it may not generalize well to new data.

Model selection – choosing a neural network architecture

1/1 point



Pick  $\mathbf{W}^{(2)}$ ,  $\mathbf{B}^{(2)}$ 

Train, CV

Estimate generalization error using the test set:  $J_{test}(\mathbf{W}^{(2)}, \mathbf{B}^{(2)})$ 

For a classification task; suppose you train three different models using three different neural network architectures. Which data do you use to evaluate the three models in order to choose the best one?

- All the data -- training, cross validation and test sets put together.
- O The test set
- The cross validation set



**⊘** Correct

Correct. Use the cross validation set to calculate the cross validation error on all three models in order to compare which of the three models is best.