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## Practice quiz: Advice for applying machine learning

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1.

1 / 1 point

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

- ☐ 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 test that you run to gain insight into what is/isn't working with a learning algorithm.
- ☐ A process by which we quickly try as many different ways to improve an algorithm as possible, so as to see what works.
- ☐ An application of machine learning to medical applications, with the goal of diagnosing patients' conditions.

✓ **Correct**

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.

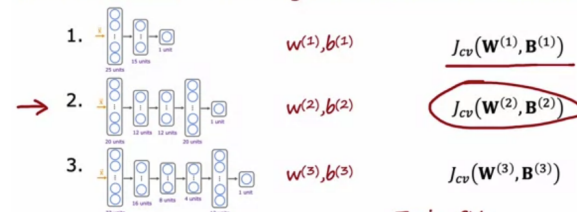
- ☒ False
- ☐ True

✓ **Correct**

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

## 3. Model selection – choosing a neural network architecture

1 / 1 point



Pick  $w^{(2)}, B^{(2)}$

Train, CV

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

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?

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