

✔ Congratulations! You passed!

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higher

Go to next item

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

✔ 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.

- ☐ True
- ☒ False

✔ Correct


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

3.

1 / 1 point

Model selection – choosing a neural network architecture

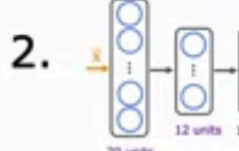
1.



$w^{(1)}, b^{(1)}$

$J_{cv}(\mathbf{W}^{(1)}, \mathbf{B}^{(1)})$

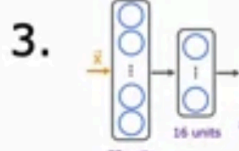
→ 2.



$w^{(2)}, b^{(2)}$

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

3.



$w^{(3)}, b^{(3)}$

$J_{cv}(\mathbf{W}^{(3)}, \mathbf{B}^{(3)})$

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

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

Train, CV

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 training set
- ☐ The test 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.