



Quiz 1



5/5 questions correct

Quiz passed!

[Continue Course \(/learn/practical-machine-learning/lecture/Bu9ns/caret-package\)](/learn/practical-machine-learning/lecture/Bu9ns/caret-package)

[Back to Week 1 \(/learn/practical-machine-learning/home/week/1\)](/learn/practical-machine-learning/home/week/1)



1.

Which of the following are components in building a machine learning algorithm?



Deciding on an algorithm.

Well done!



Training and test sets

Well done!



Artificial intelligence

Well done!



Statistical inference

Well done!

☐ Machine learning

Well done!

✓ 2.

Suppose we build a prediction algorithm on a data set and it is 100% accurate on that data set. Why might the algorithm not work well if we collect a new data set?

- ☐ Our algorithm may be overfitting the training data, predicting both the signal and the noise.

Well done!

- ☐ We have too few predictors to get good out of sample accuracy.
- ☐ We have used neural networks which has notoriously bad performance.
- ☐ We may be using a bad algorithm that doesn't predict well on this kind of data.

✓ 3.

What are typical sizes for the training and test sets?

- ☐ 20% test set, 80% training set.
- ☐ 100% training set, 0% test set.
- ☐ 90% training set, 10% test set
- ☐ 60% in the training set, 40% in the testing set.

Well done!



4.

What are some common error rates for predicting binary variables (i.e. variables with two possible values like yes/no, disease/normal, clicked/didn't click)?

☐ R^2 **Well done!**☐

Sensitivity

Well done!☐

Median absolute deviation

Well done!☐

Correlation

Well done!☐

Root mean squared error

Well done!

5.

Suppose that we have created a machine learning algorithm that predicts whether a link will be clicked with 99% sensitivity and 99% specificity. The rate the link is clicked is 1/1000 of visits to a website. If we predict the link will be clicked on a specific visit, what is the probability it will actually be clicked?

☐

89.9%

☐ 90%

☐ 9%

Well done!

☐ 50%

