Quiz 1

5 questions

1.

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

- [ ] Asking the right question.
- [ ] Training and test sets
- [ ] Artificial intelligence
- [ ] Machine learning
- [ ] Statistical inference

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?

- ( ) We have too few predictors to get good out of sample accuracy.
- ( ) We have used neural networks which has notoriously bad performance.
- ( ) Our algorithm may be overfitting the training data, predicting both the signal and the noise.
- ( ) We may be using bad variables that don't explain the outcome.v

3.

What are typical sizes for the training and test sets?

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

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)?

- [ ] Root mean squared error
- [ ] Median absolute deviation
- [ ] Correlation
- [ ] Predictive value of a positive
- [ ] R^2

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?

- 50%
- 89.9%
- 9%
- 90%

3 questions unanswered

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