**Feedback — Quiz 1**[Help](https://class.coursera.org/predmachlearn-006/help/quizzes?url=https%3A%2F%2Fclass.coursera.org%2Fpredmachlearn-006%2Fquiz%2Ffeedback%3Fsubmission_id%3D6690)

You submitted this quiz on **Sun 26 Oct 2014 8:22 PM PDT**. You got a score of **15.00** out of **15.00**. However, you will not get credit for it, since it was submitted past the deadline.

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**Question 1**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| Data mining |  |  |  |
| Training and test sets |  |  |  |
| Asking the right question. | Correct | 3.00 |  |
| Artificial intelligence |  |  |  |
| Total |  | 3.00 / 3.00 |  |

**Question 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?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| We may be using bad variables that don't explain the outcome.v |  |  |  |
| Our algorithm may be overfitting the training data, predicting both the signal and the noise. | Correct | 3.00 |  |
| We are not asking a relevant question that can be answered with machine learning. |  |  |  |
| We have used neural networks which has notoriously bad performance. |  |  |  |
| Total |  | 3.00 / 3.00 |  |

**Question 3**

What are typical sizes for the training and test sets?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| 20% test set, 80% training set. |  |  |  |
| 60% in the training set, 40% in the testing set. | Correct | 3.00 |  |
| 10% test set, 90% training set |  |  |  |
| 100% training set, 0% test set. |  |  |  |
| Total |  | 3.00 / 3.00 |  |

**Question 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)?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| Correlation |  |  |  |
| Accuracy | Correct | 3.00 |  |
| Root mean squared error |  |  |  |
| R^2 |  |  |  |
| Total |  | 3.00 / 3.00 |  |

**Question 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?

|  |  |  |  |
| --- | --- | --- | --- |
| **Your Answer** |  | **Score** | **Explanation** |
| 99.9% |  |  |  |
| 9% | Correct | 3.00 |  |
| 0.009% |  |  |  |
| 90% |  |  |  |
| Total |  | 3.00 / 3.00 |  |

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