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Week 5 Quiz

Q1

10.0/10.0 points (graded)

Suppose you derived a classification model. The performance you obtained on the training set and the test set are both poor (large error). Check all that apply.

- ☒ The model suffers from high-bias.
- ☐ The model overfits the data.
- ☒ Adding more complex features may help derive a better model.



Submit

You have used 1 of 1 attempt

Q2

0.0/10.0 points (graded)

The in-sample error (error of a learning algorithm on the training set) is typically lower than the out-sample error on a test set.

- ☐ True
- ☐ False

Submit

You have used 0 of 1 attempt

Q3

10/10 points (graded)

We can get multiple local optima if we perform a linear regression by minimizing the mean square error.

☐ True

☒ False ✓

Submit

You have used 1 of 1 attempt

✓ Correct (10/10 points)

Q4

10.0/10.0 points (graded)

With K-NN, one can represent only linear decision boundaries (that is the entire shape of the boundary is linear).

☐ True

☒ False ✓

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Q5

10.0/10.0 points (graded)

If the performance of a classification model on the test set is poor (high out-of-sample error), one should re-calibrate the model parameters using the test set to achieve a better model.

☐ True

☒ False ✓

Submit

You have used 1 of 1 attempt

Q6

10.0/10.0 points (graded)

In a classification setting, and during the model selection stage, the validation examples in validation set (or the remaining one of the K folds when using cross-validation) are also used as training examples:

☐ True

☒ False ✓

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Q7

10.0/10.0 points (graded)

To build a linear regression model, you can either use gradient descent or normal equation.

☒ True ✓

☐ False

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Q8

10.0/10.0 points (graded)

Because it is straightforward to calculate in just one step, using normal equation is the

Because it is straightforward to calculate in just one step, using normal equations is the preferred method when the feature space is large (e.g., 10,000 features).

☐ True

☒ False ✓

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Q9

10.0/10.0 points (graded)

If the learning rate α is too small, gradient descent converges quickly.

☐ True

☒ False ✓

Submit

You have used 1 of 1 attempt

Q10

10.0/10.0 points (graded)

What is the difference between classification and regression? Check all that apply.

☐ Classification requires labeled data, while regression requires unlabeled data.

☐ Classification has numerical values as labels while regression has categorical (discrete) labels.

☒ Regression has numerical values as labels while classification has categorical (discrete) labels.



Submit

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