

Evaluation II Quiz

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|------------------|-------------|--------|---|-----------|---|------------|------|
| Due | No due date | Points | 3 | Questions | 3 | Time Limit | None |
| Allowed Attempts | Unlimited | | | | | | |

Take the Quiz Again

Attempt History

| | Attempt | Time | Score |
|--------|---------------------------|--------------------|------------|
| LATEST | Attempt 1 | less than 1 minute | 0 out of 3 |

Submitted Jun 16 at 18:19

Unanswered

Question 1

0 / 1 pts

Which of the following can harmfully impact the test error more than training error?

☐ Model Variance

☐ Model bias

The model variance is high when different randomly sampled training sets lead to very different predictions on the test set. The high variance indicates that the model overfits to training set. In this case, the training error may decrease, but test error will increase.

Unanswered

Question 2

0 / 1 pts

During training process, if your model shows significantly different performance across different training sets, which of the following is NOT a valid way to reduce this variance?

- ☐ Increase amount of data in each training set
- ☐ Decrease model complexity
- ☐ Reduce noise in training
- ☐ Improve optimisation algorithm used for error minimisation

orrect Answer

Improving your optimisation algorithm would decrease the bias. To reduce variance, using the other three options would be helpful. To decrease model complexity, you can consider reducing the number of features or using bagging.

Inanswered

Question 3

0 / 1 pts

What are the possible solutions to reduce evaluation variance?

- ☐ Use K-fold cross-validation
- ☐ Increase the holdout partition size for test set
- ☐ Stratification
- ☐ Repeated random subsampling and run multiple evaluations

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To reduce evaluation variance, we can increase the size of test set, or evaluate multiple times using repeated random subsampling or K-fold cross-validation, and get the average performance across different runs. The stratification generates training and test sets that contain approximately the same distribution of class labels as the overall set. The stratification can help to reduce the bias.