6.5 Review Questions

6.5.R1

1/1 point (graded)

You are doing a simulation in order to compare the effect of using Cross-Validation or a Validation set. For each iteration of the simulation, you generate new data and then use both Cross-Validation and a Validation set in order to determine the optimal number of predictors. Which of the following is most likely?

- ○ The Cross-Validation method will result in a higher variance of optimal number of predictors
- ◉ The Validation set method will result in a higher variance of optimal number of predictors
- ○ Both methods will produce results with the same variance of optimal number of predictors
- ○ Not enough information is given to decide

✔

Explanation

Cross-Validation is similar to doing a Validation set multiple times and then averaging the answers. As such, we expect it to have lower variance than the Validation set method. This is why Cross-Validation is appealing (especially for small n).

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