

Back

Module 5 Graded Quiz: Regularization Details

Graded assignment • 30 min

Due

Oct 13, 11:59 PM PDT

Your grade: 100%

your grade: 100%

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your highest: 100%

To pass you need at least 75%. We keep your highest score.

Next item →

1. When working with regularization, what is the view that illuminates the actual optimization problem and shows why LASSO generally zeros out coefficients?

☐ Analytical view

☒ Geometric view

☐ Probabilistic view

☐ Regression view

Correct

Correct: The Geometric view illuminates the actual optimization problem and shows why LASSO generally zeros out coefficients.

1 / 1 point

2. When working with regularization, what is the view that recalibrates our understanding of LASSO and a Ridge, as a base problem, where coefficients have particular prior distributions?

☒ Probabilistic view

☐ Geometric view

☐ Analytical view

☐ Regression view

Correct

Correct: The Probabilistic view recalibrates our understanding of LASSO and a Ridge as a base problem where coefficients have particular prior distributions.

1 / 1 point

3. When working with regularization, what is the logical view of how to achieve the goal of reducing complexity?

☐ Geometric view

☒ Analytical view

☐ Regression view

☐ Probabilistic view

Correct

Correct: The Analytical view is a logical view of how to achieve the goal of reducing complexity.

1 / 1 point

4. All of the following statements about Regularization are TRUE except:

☐ Optimizing predictive models is about finding the right bias/variance tradeoff.

☒ Features should rarely or never be scaled prior to implementing regularization.

☐ We need models that are sufficiently complex to capture patterns in data, but not so complex that they overfit.

☐ Regularization techniques have an analytical, a geometric, and a probabilistic interpretation.

Correct

Correct: For more information review the Regularization Techniques lessons.

1 / 1 point

5. When working with regularization and using the geometric formulation, what is found at the intersection of the penalty boundary and a contour of the traditional OLS cost function surface?

☒ The cost function minimum

☐ A smaller range of coefficients

☐ The prior distribution of β

☐ A peaked density

Correct

Correct: The cost function minimum is found at the intersection of the penalty boundary and a contour of the traditional OLS cost function surface.

1 / 1 point

6. Which statement under the Probabilistic View is correct?

☐ Regularization imposes certain errors on the regression coefficients. Feedback: Incorrect! Please review the further Details of Regularization lessons.

☒ Regularization imposes certain priors on the regression coefficients.

☐ Regularization uses some regression coefficients to inflate the errors.

☐ Regularization coefficients do not take into consideration prior probabilities.

Correct

Correct: For more information please review the Further Details of Regularization (Part 2) lesson.

1 / 1 point

7. Increasing L2/L1 penalties force coefficients to be smaller, restricting their plausible range. This statement is part of what View?

☐ Geometric View

☐ Probabilistic View

☒ Analytic View

Correct

Correct: For more information please review the further Details of Regularization lessons.

1 / 1 point

8. What does a higher lambda term mean in Regularization technique?

☒ Higher lambda decreases variance, means smaller coefficients.

☐ Higher lambda increases variance, means smaller coefficients.

☐ Higher lambda decreases variance, means larger coefficients.

☐ Higher lambda decreases prior probability.

Correct

Correct: For more information please review the further Details of Regularization lessons.

1 / 1 point

9. What concept/s under Probabilistic View is/are true?

☐ We can derive the posterior probability by knowing the probability of target and the prior distribution.

☐ The prior distribution is derived from independent draws of a prior coefficient density function that we choose when regularizing.

☐ L2 (ridge) regularization imposes a Gaussian prior on the coefficients, while L1 (lasso) regularization imposes a Laplacian prior.

☒ All of the above

Correct

Correct: For more information please review the further Details of Regularization lessons.

1 / 1 point

10. What statement is True?

☒ The goal of Regularization is always going to be to optimize our complexity trade off, so we can minimize error on the hold-out set.

☐ By penalizing the cost function, we increase the complexity of the model.

☐ We reduce the complexity of the model by minimizing the error on our training set.

☐ Introducing Regularization will increase bias and variance.

Correct

Correct: For more information please review the further Details of Regularization lessons.

1 / 1 point

https://www.coursera.org/learn/supervised-machine-learning-regression/assignment-submission/z10IV/module-5-graded-quiz-regularization-details/vie...

1/1