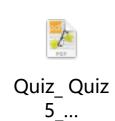
11:44 PM

Friday, October 14, 2022



Quiz Quiz 5: Probabilistic Interpretation of Linear Regression

Quiz 5: Probabilistic Interpretation of Linear Regression

Regression
Started: Oct 14 at 11:40pm

Quiz Instructions

Which one of the following statements about the difference between the Probability Mass Function (PMF) and the Probability Density Function (PDF) for the single variables is NOT true?

The PDF is the derivative of the CDF, whereas the PMF is not
The PMF cannot go above 1, whereas the PDF could go above 1
The PDFis only defined for continuous random variables, whereas the PMFis defined for discrete random variables
The PMF must always be above 0, whereas the PDF can fall below 0

1/6

Question 2

Unat's the penalty term for the Ridge regression?

The absolute sum of the coefficients
The sum of the coefficients
The square root of the magnitude of the coefficients
The square of the magnitude of the coefficients

10/14/22, 11:43 PM Quiz: Quiz 5: Probabilistic Interpretation of Linear Regression high bias, high variance Low bias, high variance ○ High bias, low variance Low bias, low variance **Question 4** 1 pts Which is correct? An example of prior can be the degree of the polynomial. Posterior produces a point estimate Derivation of MAP and MLE both relies on Bayes' rule Posterior estimation relies on sampling or approximation. **Question 5** 1 pts https://canvas.sfu.ca/courses/71925/quizzes/226121/take 10/14/22, 11:43 PM Quiz: Quiz 5: Probabilistic Interpretation of Linear Regression What does "a priori" mean?

Question 6

1 pts

Which of the following is the expected error in choosing a model for a training set?

Sum of Bias Squared, Variance, and Irreducible Error
Sum of Bias and Variance Squared
Sum of Bias, Variance Squared, and Irreducible Error
Sum of Bias and Irreducible Error

Before applying the model to unseen testing data

After seeing the data

10/14/22, 11:43 PM

After applying the model to unseen testing data

Which of the following is not true when the posterior $p(\vec{\theta}|\mathcal{D})$ is unimodal?

There is one parameter value that is the most plausible given the data.

There could be multiple parameter values that are all quite plausible.

The MAP estimate would capture the most important information of the posterior well.

The MAP estimate corresponds to this parameter value.

Question 8

1 pts

Which of the generalization error cannot be decreased through overfitting? $Var(y|\bar{x}) \bigvee$ $(\mathbb{E}_{\mathcal{D}}[f(\bar{x};\theta(\mathcal{D},L)|\bar{x}]-\mathbb{E}_y[y|\bar{x}])^2$

Quiz: Quiz 5: Probabilistic Interpretation of Linear Regression

Quiz saved at 11:43pm Submit Quiz

Quiz: Quiz 5: Probabilistic Interpretation of Linear Regression

6/6

 $\bigcirc \ Var(f(ar{x}; heta(\mathcal{D},L)|ar{x})$

 $^{\circ} \mathbb{E}_{y\,\mathcal{D}}[f(ar{x}; heta(\mathcal{D},L))-y)^2|ar{x}]$