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Regression quiz

7 out of 7 correct

1. What is Elastic Net Regression?

- ⦿ **A linear regression model that uses regularization**

- ◯ A non-linear regression model

- ◯ A model that fits a polynomial curve to the data

- ◯ A model that uses decision trees to predict outcomes

Explanation: Elastic Net Regression is a linear regression model that uses regularization to prevent overfitting. It combines the penalties of Lasso and Ridge Regression to achieve a balance between them.

2. What is the purpose of Elastic Net Regression?

- ◯ To maximize the R-squared value of the model

- ◯ To minimize the mean squared error of the model

- ⦿ **To prevent overfitting in the model**

- ◯ To fit a polynomial curve to the data

Explanation: The purpose of Elastic Net Regression is to prevent overfitting in the model by adding a penalty term to the cost function that encourages the model to use fewer features. This penalty term is a combination of the L1 and L2 norm of the model coefficients.

3. Which of the following is a hyperparameter of Elastic Net Regression?

- ◯ Learning rate

- ⦿ **Regularization parameter**

○   Number of iterations

○   Number of hidden layers

Explanation: The regularization parameter is a hyperparameter of Elastic Net Regression that controls the strength of the regularization penalty. A larger value of this parameter will result in a stronger penalty, which will encourage the model to use fewer features.

4. Which of the following is an advantage of Elastic Net Regression?

○   It can handle non-linear relationships between features and the target variable

○   It can handle missing values in the data

◉   **It can select the most important features in the model**

○   It is computationally less expensive than other regression models

Explanation: Elastic Net Regression can select the most important features in the model by combining the penalties of Lasso and Ridge Regression. This helps to simplify the model and reduce the risk of overfitting.

5. Which of the following is a disadvantage of Elastic Net Regression?

○   It can only be used for linear regression problems

◉   **It is sensitive to the scale of the features**

○   It is prone to underfitting

○   It can handle missing values in the data

Explanation: Elastic Net Regression is sensitive to the scale of the features, which means that it can give different importance to features based on their scale. To avoid this problem, it is recommended to scale the features before applying Elastic Net Regression.

6. What is model pickling?

◉   **A technique for storing trained models on disk**

○ A technique for selecting the best hyperparameters for a model

○ A technique for scaling the features in a dataset

○ A technique for visualizing the performance of a model

Explanation: Model pickling is a technique for storing trained models on disk so that they can be used later without having to retrain the model. It involves converting the trained model into a serialized form that can be stored as a file.

7. Which Python module is used for model pickling?

● **pickle**

○ pandas

○ numpy

○ sklearn

Explanation: The pickle module in Python is used for model pickling. It provides functions for converting Python objects into a serialized form that can be stored as a file, and for converting the serialized form back into Python objects.

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