Started on	Thursday, February 8, 2018, 7:31 PM
State	Finished
Completed on	Thursday, February 8, 2018, 7:51 PM
Time taken	19 mins 40 secs
Grade	**60.00** out of 60.00 (**100**%)

Question 1

Complete

4.00 points out of 4.00

Which of following best describes bias-varience tradeoff?

Select one:

⦿ a. Finding a model that is complex enough to learn from data but not too complex that is captures noise in the data.

○ b. Finding a model that is not complex enough to learn from data but too complex that is captures noise in the data.

○ c. It is a synonym for cross-validation.

○ d. Learning the regularization term.

Question 2

Complete

4.00 points out of 4.00

What is the purpose of a learning curve?

Select one:

○ a. To provide insight into the selection of an optimal hyperparameter value.

○ b. To display measures of model complexity versus model performance

⦿ c. Shows a convergence in the performance of an estimator on the training and validation data sets.

○ d. To explore the relationship between model complexity and model performance.

Question 3

Complete

4.00 points out of 4.00

What is the purpose of a validation curve?

Select one:

○ a. Shows a convergence in the performance of an estimator on the training and validation data sets.

⦿ b. To explore the relationship between model complexity and model performance.

○ c. To provide insight into the selection of an optimal hyperparameter value.

○ d. To provides insight into whether a model is affected more by bias error or variance-error

Question 4

Complete

4.00 points out of 4.00

What module contains cross-validation iterators that were talked about in the Introduction to Overfitting notebook?

Select one:

- ○ a. sklearn.modelSelection
- ○ b. sklearn.ModelSelection
- ○ c. sklearn.mod_sel
- ◉ d. sklearn.model_selection

Question 5

Complete

4.00 points out of 4.00

Assuming our data are IID, which of the following are cross-validation iterators the scikit learn library provides?

Select one or more:

- ☑ a. `KFold`
- ☑ b. `LeaveOneOut`
- ☑ c. `StratifiedKFold`
- ☑ d. `LeavePOut`
- ☑ e. `GroupKFold`
- ☑ f. `ShuffleSplit`

Question 6

Complete

4.00 points out of 4.00

Which of the following are hyperparameters for GridSearchCV in scikit learn model_selection module?

Select one or more:

- ☑ a. param_grid
- ☐ b. learning_rate
- ☑ c. cv
- ☐ d. class
- ☑ e. estimator

Question 7

Complete

4.00 points out of 4.00

How does Parameter Grid work?

Select one:

- ◉ a. It provides an interface that automatically constructs a grid of all possible combinations that can be used in a grid search.

- ○ b. It constructs a dictionary that maps the hyperparameters to the hyperparameter values.

- ○ c. It defines a grid of parameter values, applies the model over all possible parameter value combinations in the grid.

- ○ d. It randomly selects possible hyperparameter combinations from the supplied grid of values to identify good parameter combinations.

Question 8

Complete

4.00 points out of 4.00

How does multi-dimensional grid search work?

Select one:

- ○ a. It randomly selects possible hyperparameter combinations from the supplied grid of values to identify good parameter combinations.

- ◉ b. It extends grid search to multiple hyperparameters by constructing a dictionary that maps the hyperparameters to the hyperparameter values

- ○ c. It constructs a grid of all possible combinations that can be used in a grid search.

Question 9

Complete

4.00 points out of 4.00

Which of the following best describes Model Selection?

Select one:

- ◉ a. Choosing the best model for a given dataset.

- ○ b. Removing parameters from a dataset.

- ○ c. Adding parameters to a dataset.

- ○ d. Removing bad models from a dataset.

Question 10

Complete

4.00 points out of 4.00

How does Grid Search (not randomized) work?

Select one:

○ a. It randomly tries different combinations of parameters and finds the worst combination.

◉ b. It defines a grid of parameter value combinations and finds the best combination.

○ c. It randomly tries different combinations of parameters and finds the best combination.

○ d. It defines a grid of parameter value combinations and finds the worst combination.

Question 11

Complete

4.00 points out of 4.00

To fit a polynomial we can use the ____ estimator to generate a new feature matrix that transforms the input array (in our case the sample independent variables) into polynomial terms.

Select one:

○ a. Polynomial

○ b. PolynominalFeatures

◉ c. PolynomialFeatures

○ d. PolynomialClassifier

Question 12

Complete

4.00 points out of 4.00

The ElasticNet class employs which of the following parameters:

Select one or more:

☑ a. alpha

☐ b. beta

☑ c. l1_ratio

☐ d. learning_rate

Question 13

Complete

4.00 points out of 4.00

Please select a pair of words (in correct order) to finish the sentence: "In contrast to Ridge Regression, LASSO imposes a _____ penalty and leads to _____ solutions."

Select one:

○ a. L1 norm ; sparse

○ b. L2 norm ; sparse

○ c. L2 norm ; dense

○ d. L1 norm ; dense

Question 14

Complete

4.00 points out of 4.00

What is regularization primarily used for?

Select one:

○ a. To scale data.

○ b. To encourage overfitting.

○ c. To scale features.

⊙ d. To prevent overfitting.

Question 15

Complete

4.00 points out of 4.00

What is the fundamental idea in regularization?

Select one:

○ a. Add data to the model.

⊙ b. Add additional information to the model selection process to affect the model behavior.

○ c. Remove parameters from the model

○ d. Remove information from the model selection process to affect the model behavior.