Congratulations! You passed!
TO PASS 80% or higher

Keep Learning

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Quiz 4

LATEST SUBMISSION GRADE
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1. If unbiased accuracy assessment is important, than use _____ folds in the K-fold cross-validation stage. **1 / 1 point**

- Fewer
- (•) More

Correct

2. This classifier attempts to maximize the margin around the separating hyperplane. **1 / 1 point**

- Logistic Regression
- Gaussian Naive Bayes
- (•) Linear Support Vector Machines
- Fisher's Linear Discriminant Analysis

Correct

3. A classifier has a number of parameters that needed to be estimated, or learned. This is typically performed on a subset of the observations called the _____ data. **1 / 1 point**

- feature
- (•) training
- class
- testing

Correct

4. When performing linear classification in V-dimensions, the boundary can be described as a _____ dimensional hyperplane. **1 / 1 point**

- (•) V-1
- V-2
- V
- 1

Correct

5. In K-fold cross-validation, how many folds are used to train the classifier in each step? **1 / 1 point**

- K
- 1
- (•) K-1
- K-2

Correct

6. Fill in the blank: Solving SVMs is a _____ programming problem. **1 / 1 point**

- (•) quadratic
- dynamic
- linear

✓ Correct

7. Which of the following could potentially be used as features in an MVPA analysis? (Check all that apply) 1 / 1 point

- [ ] Average of several voxels in an ROI
- [x] Averaged fMRI data over a block

✓ Correct

- [x] Beta values from a GLM analysis

✓ Correct

- [x] Raw fMRI data over both space and time

✓ Correct

8. When performing feature selection why is it is not permissible to select voxels that appear to distinguish between classes using information from the entire data set. 1 / 1 point

- (•) Information in the test data set may affect the learning of the classifier and bias subsequent accuracy measures.
- ( ) Information in the training data set may affect the learning of the classifier and bias subsequent accuracy measures.
- ( ) Both of these options
- ( ) Neither of these options

✓ Correct

9. True or false: Support vector machines can only be used if the data is linearly separable. 1 / 1 point

- ( ) True
- (•) False

✓ Correct

10. Which of these is not important when applying machine learning to brain data? 1 / 1 point

- ( ) Prediction accuracy
- (•) None of these options
- ( ) Generalizability to new samples
- ( ) Interpretability of the results

✓ Correct

11. Which types of MVPA maps are the easiest to interpret in neuroscientific terms? 1 / 1 point

- ( ) Maps estimated with radial basis function kernels
- ( ) Nonlinear SVM maps
- (•) Linear regression or logistic regression maps
- ( ) Polynomial regression maps

✓ Correct

12. True or false: Machine learning analyses can be conducted on activation data, but not connectivity data: 1 / 1 point

- ( ) True
- (•) False

✓ Correct