Bookmarks

- Module 1: The Basics of R and Introduction to the Course
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Principle Component Analysis - Quiz

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Question 1

1.0/1.0 point (graded)

Which of the following are true statements regarding Principal Component Analysis (PCA):

- [ ] a. PCA creates new axes that are orthogonal to the greatest variation in the data
- [ ] b. PCA can only be performed in two dimensions
- [x] c. In PCA, principal component one captures the first component of most variance
- [ ] d. None of the above

✔

Explanation

The first two answers are both false. The new axes create from PCA are oriented such that the components are in the direction of greatest variation, not orthogonal to it. As discussed in class, PCA can be conducted in higher dimensional spaces. For instance, for the human face dataset, PCA was used in 2500 dimensional space (since each of the images were 50 by 50 pixels). Therefore, it is false that PCA can only be performed in $\mathbb{R}^2$

- Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression
- Module 6: Special Distributions, the Sample Mean, the Central Limit Theorem, and Estimation
- Module 7: Assessing and Deriving Estimators - Confidence Intervals, and Hypothesis Testing
- Module 8: Causality, Analyzing Randomized Experiments, & Nonparametric Regression
- Module 9: Single and Multivariate Linear Models
- Module 10: Practical Issues in Running

Submit You have used 1 of 2 attempts

Question 2

1/1 point (graded)

True or False: Consider the example discussed in class. The eigenfaces constructed via PCA each are a separate principal component.

- (•) a. True ✔
- ( ) b. False

Explanation

This statement is true. In the example presented in class, Prof. Mullainathan discusses how the principal components are actually “eigenfaces” and shows how a face can be constructed from a linear combination of the eigenfaces.

Submit You have used 1 of 1 attempt

✔ Correct (1/1 point)

Regressions, and Omitted Variable Bias

▾ Module 11: Intro to Machine Learning and Data Visualization

Machine Learning I
due Dec 12, 2016 05:00 IST

Machine Learning II
due Dec 12, 2016 05:00 IST

Visualizing Data
due Dec 12, 2016 05:00 IST

▸ Module 12: Endogeneity, Instrumental Variables, and Experimental Design

Discussion

Topic: Module 11 / Principle Component Analysis - Quiz

Show Discussion