Ungraded: Non Negative Matrix Factorization
Practice Assignment • 10 min

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Your grade: 100%

Your latest: **100%** • Your highest: **100%**
To pass you need at least 66%. We keep your highest score.

Next item →

1. What is a key difference between NMF and PCA? 1 / 1 point

- (•) The input matrix for NMF consists of only positive values.

  Correct! The intuition behind NMF is adding together different values so that it can never undo application of a latent feature.

- ( ) PCA finds a representation of the data in a lower dimension, whereas NMF does not.
- ( ) NMF requires orthogonal vectors created, whereas such constraint doesn't apply for PCA.
- ( ) NMF decomposes the original matrix, whereas PCA does not.

2. In which case would you prefer using PCA over NMF? 1 / 1 point

- ( ) When the original decomposition strictly contains positive values.
- (•) When you have a linear combination of features.

  Correct! PCA excels in handling and creating linear combination of the original features.

- ( ) When cancelling out with negative values is not desired.
- ( ) When you want to decompose videos, music, or images.

3. Which of the following is the most suitable for NMF? 1 / 1 point

- (•) Reconstruct a text document with learned topics (features).

  Correct! NMF can be very powerful in natural language processing by outputting the relationship between terms and topics, which are used as features to reconstruct the document.

- ( ) Analyze potential movements and relationships of multiple stocks.
- ( ) Predict the price of a rental space based on location, facility, and average rent in the surrounding area.
- ( ) Learn features for a dataset in which negative values are highly insightful and valuable.