1. Objectives

Objectives

At the end of this lecture, you will be able to do the following:

- Understand the need for **dimensionality reduction** .
- Know how the **empirical covariance matrix** is used as a tool for dimensionality reduction.
- Understand **spectral decomposition** (without proof) of positive semi-definite matrices.
- Understand the role played by **eigenvalues** and **eigenvectors** in **principal component analysis (PCA)** .
- Use the **PCA algorithm** for dimensionality reduction.
- Use heuristics to determine the number of dimensions one must retain after performing PCA.

Discussion

Show Discussion

Topic: (Optional) Unit 8 Principal component analysis:(Optional) Lecture 23: Principal Component Analysis / 1. Objectives