







# Pros and Cons of K-Means Clustering

# Pros

- Fast, Scalable Algorithm

# Cons

- Choice of  $k$  can be tricky
- Euclidean distance not robust
  - Hyperspheres not common
  - Sensitive to correlated measures
  - Sensitive to scaling
  - Sensitive to skewed measures
  - Sensitive to outliers
- Categorical data requires preprocessing
  - Multiple Correspondence Analysis
  - Multi-Dimensional Scaling

Unsupervised Learning:

# **PRINCIPAL COMPONENTS ANALYSIS (PCA)**

# Pros and Cons of K-Means Clustering

## Pros

- Fast, Scalable Algorithm

## Cons

- Choice of k can be tricky
- Euclidean distance not robust
  - Hyperspheres not common
  - Sensitive to correlated measures
  - Sensitive to scaling
  - Sensitive to skewed measures
  - Sensitive to outliers
- Categorical data requires preprocessing
  - Multiple Correspondence Analysis
  - Multi-Dimensional Scaling