Introduction to Unsupervised Learning with K Means

Recap from previous session

- K nearest neighbor for regression and classification
- Precision and recall trade off
- Finished discussing supervised learning
- Assignment

Agenda for today

- Introduction to unsupervised learning
- Introduction to clustering
- K means for clustering
- Customer segmentation using K means
- One announcement

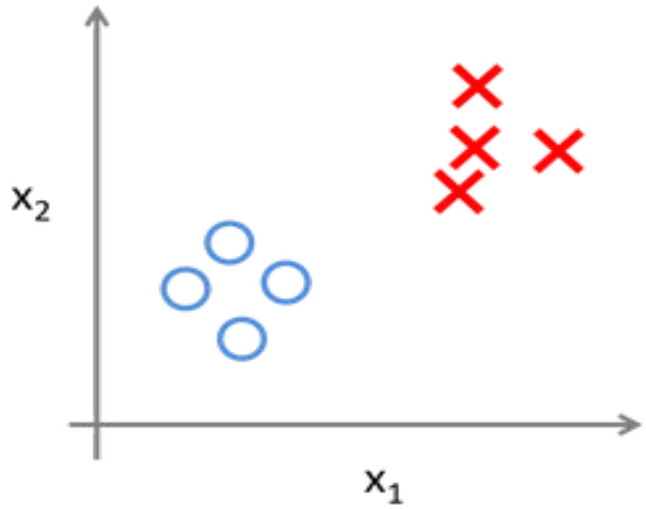
Introduction to unsupervised learning

- Find patterns within data without any supervision/labels

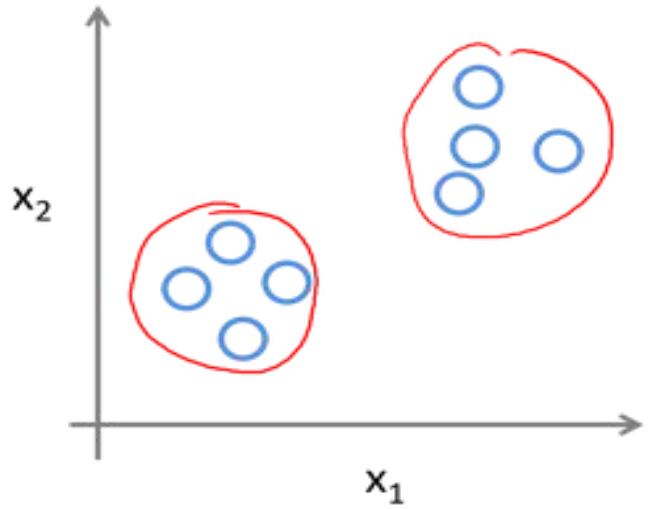
- Think of unsupervised learning as a mathematical version of **birds of a feather flock together**

- We are not given the labels which is essential for a decision boundary to discriminate. Algorithm needs to discover the boundary itself

Supervised Learning



Unsupervised Learning




I HAVE NO
IDEA WHAT
I'M DOING

Problems covered in unsupervised learning

- Clustering
- Dimensionality reduction
- Anomaly detection
- Association mining