Gift This Course

A-Z Machine Learning using Azure Machine Learning (AzureML)

Hands on AzureML: From Azure Machine Learning Introduction to Advance Machine Learning Algorithms. No Coding Required.

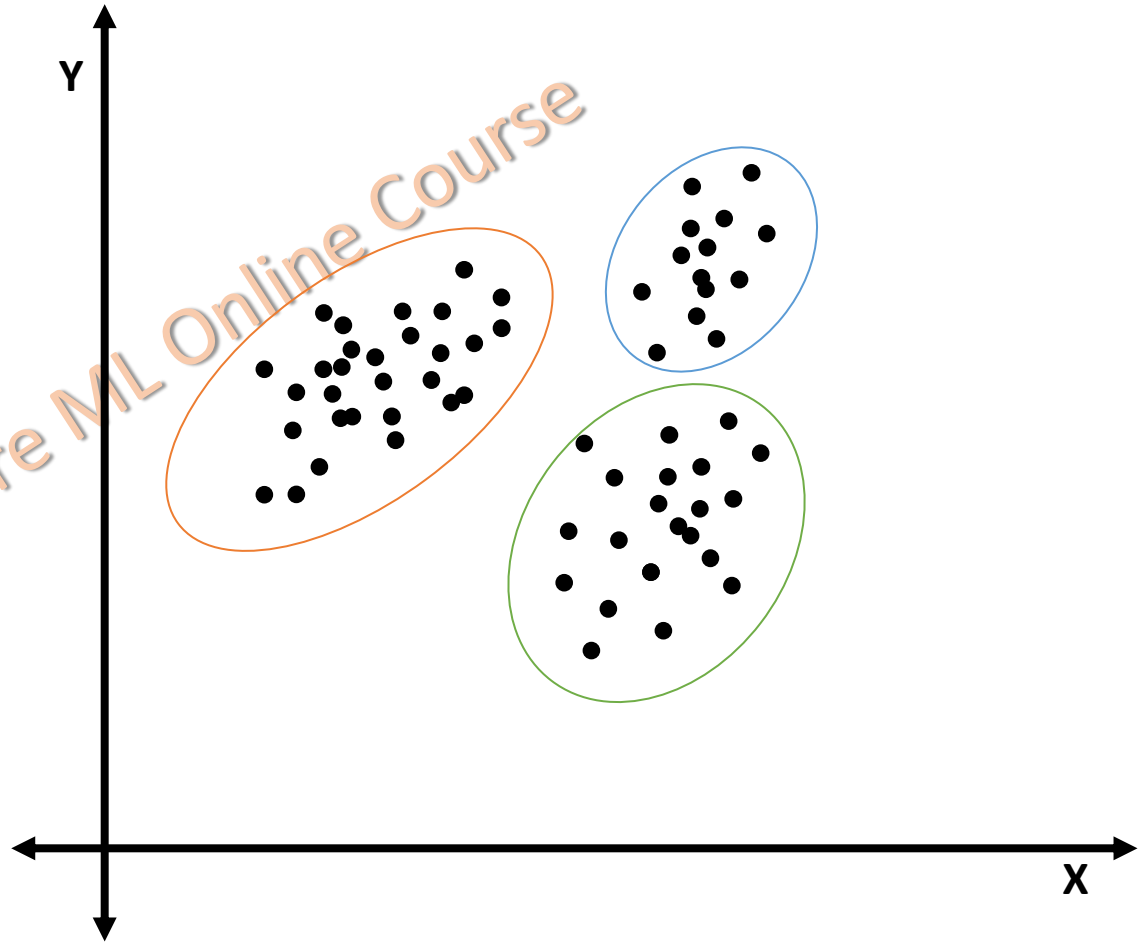
BEST SELLER ★★★★★ 4.3 (215 ratings) 1,597 students enrolled

Created by Jitesh Khurkhuriya Last updated 3/2018 English English

Clustering/Cluster Analysis

Clustering or Cluster Analysis

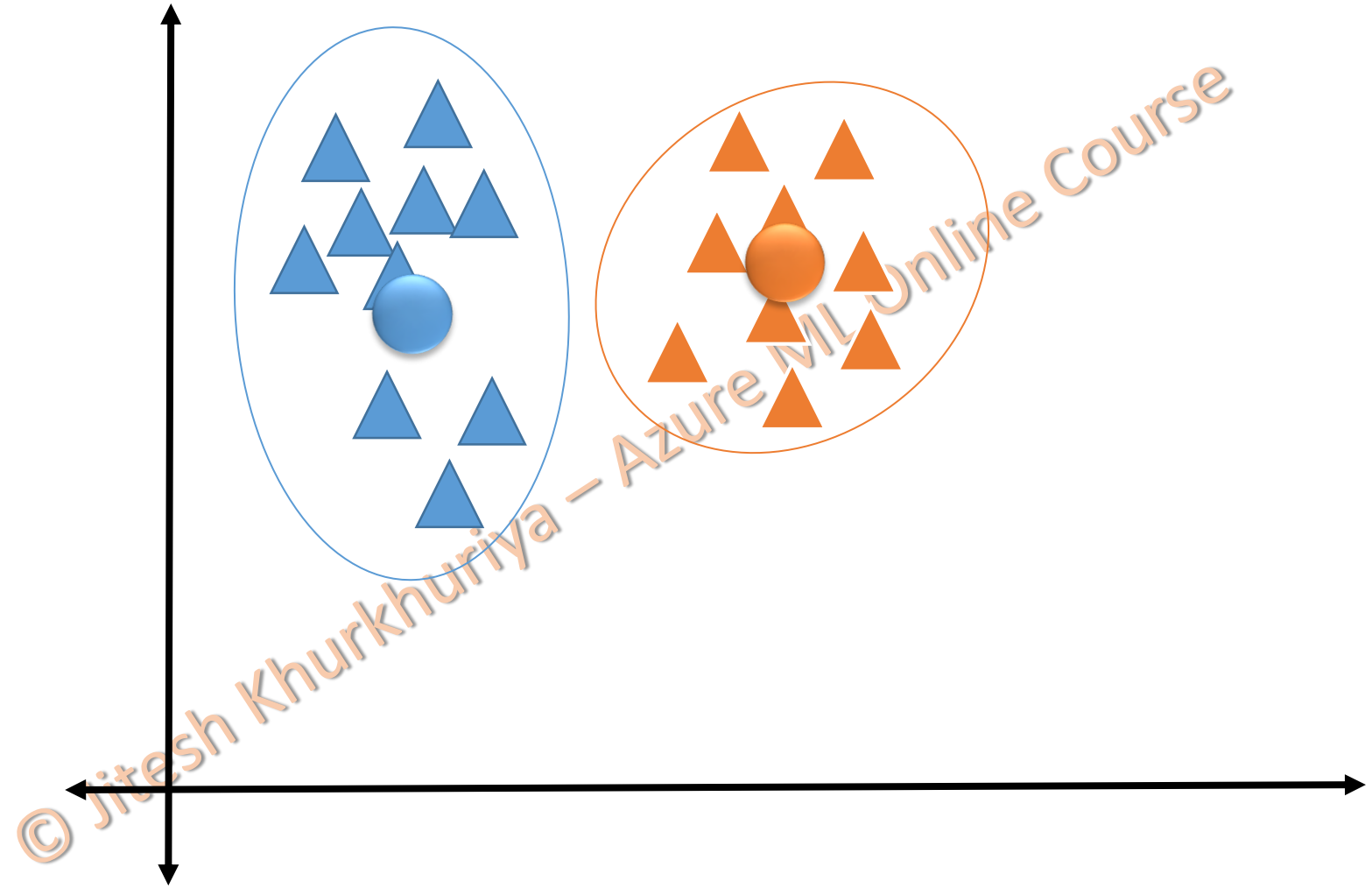
- Clustering is the task of grouping a set of objects
- Unsupervised Learning model
- Discovering distinct groups in customer databases
- Used for creating strategies to adopt for certain segments



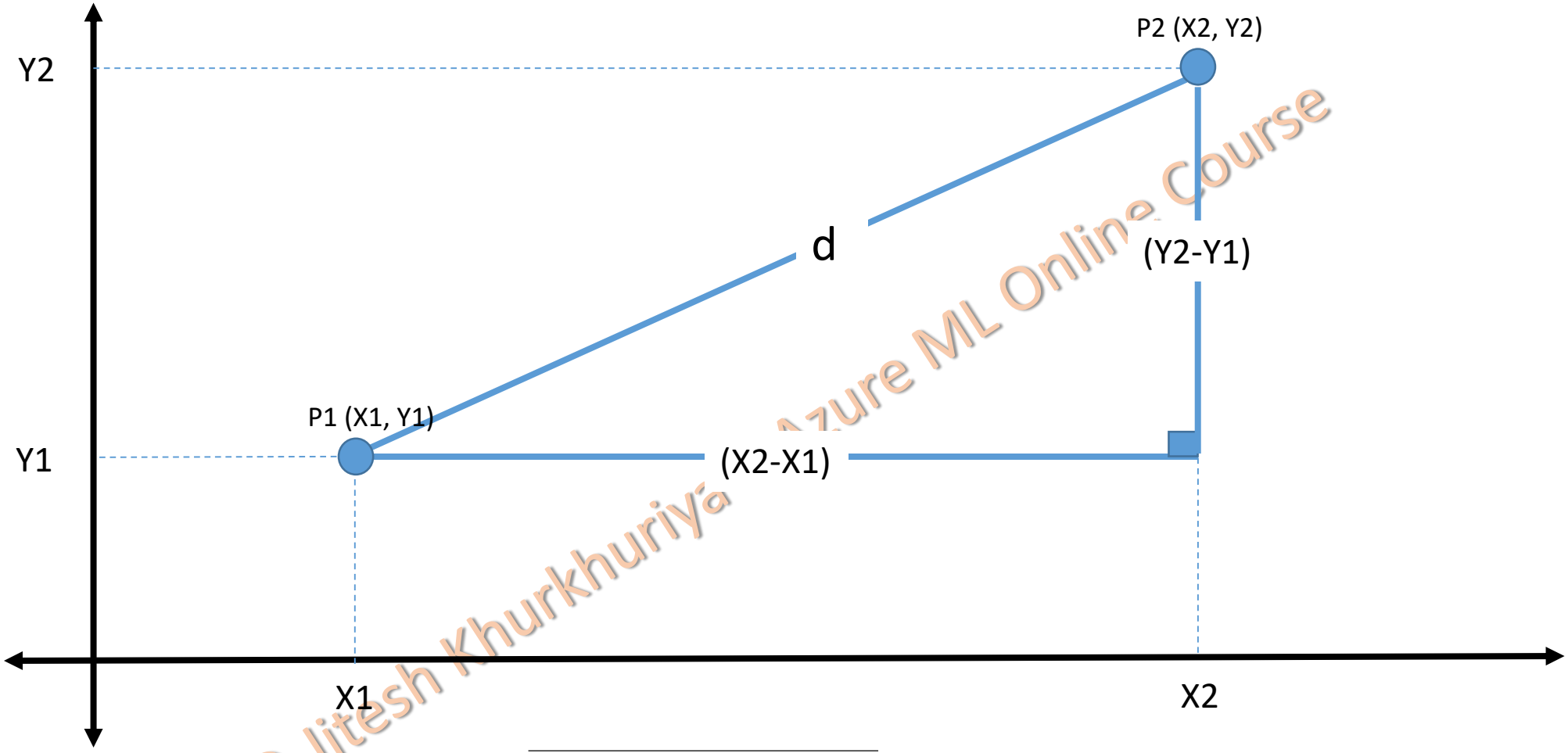
Examples of Clustering

- Recommendation engines
- Market segmentation
- Social network analysis
- Medical/Health
- Image segmentation
- Anomaly detection

How Clusters are formed?



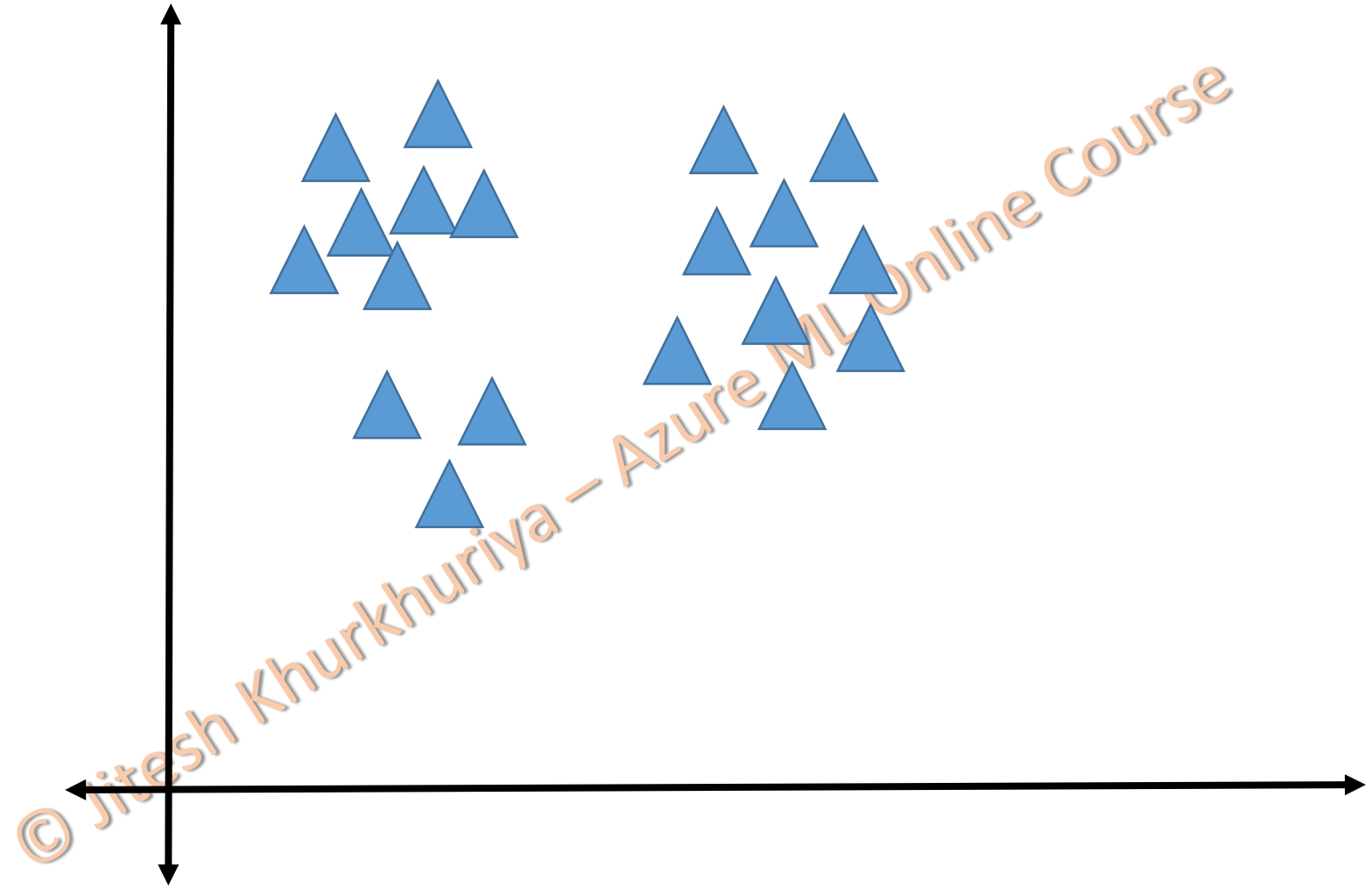
Euclidean Distance



$$d = \sqrt{(X2-X1)^2 + (Y2-Y1)^2}$$

K-Means algorithm uses Euclidean Distance for clustering

How Clusters are formed?



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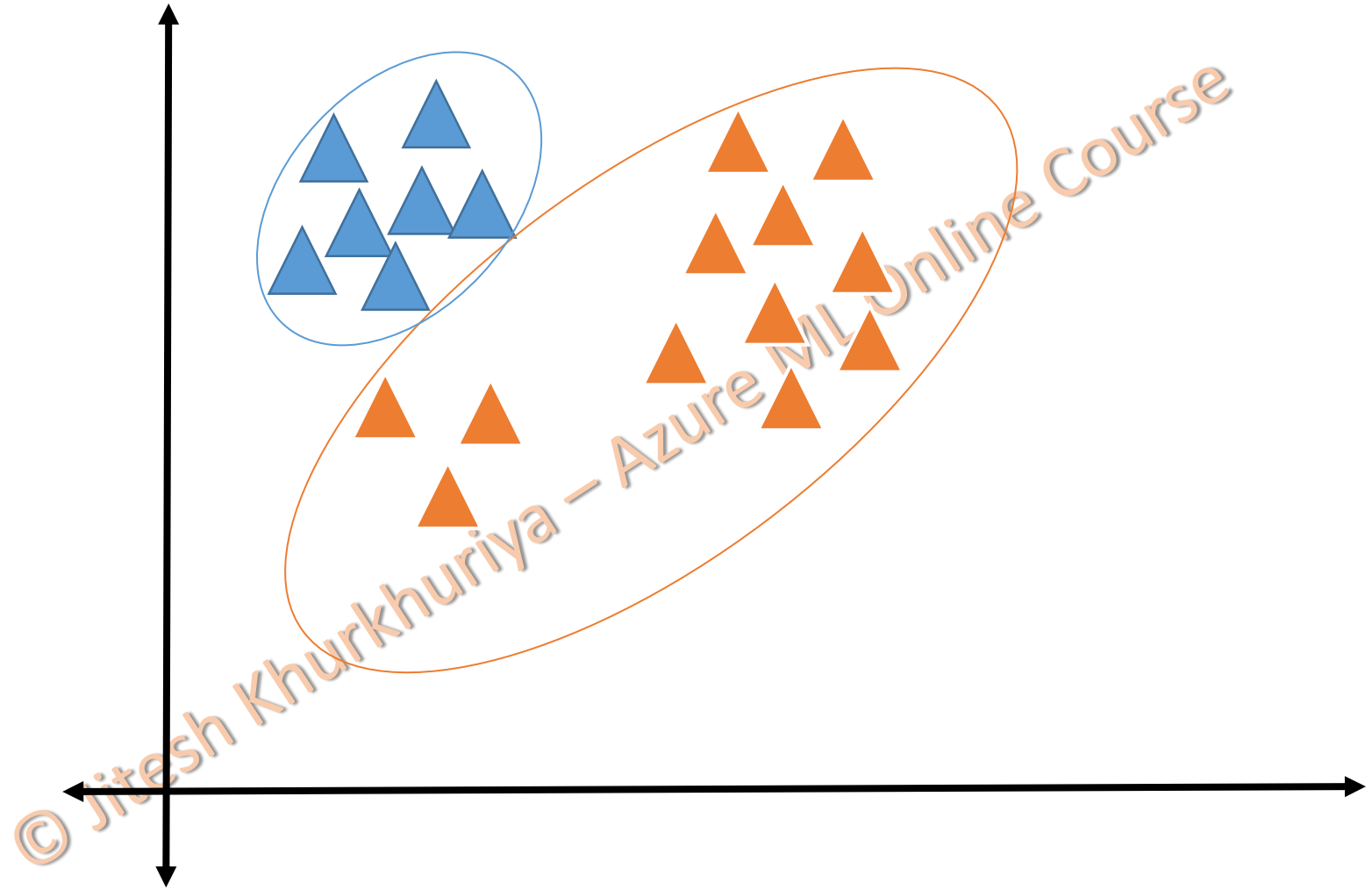

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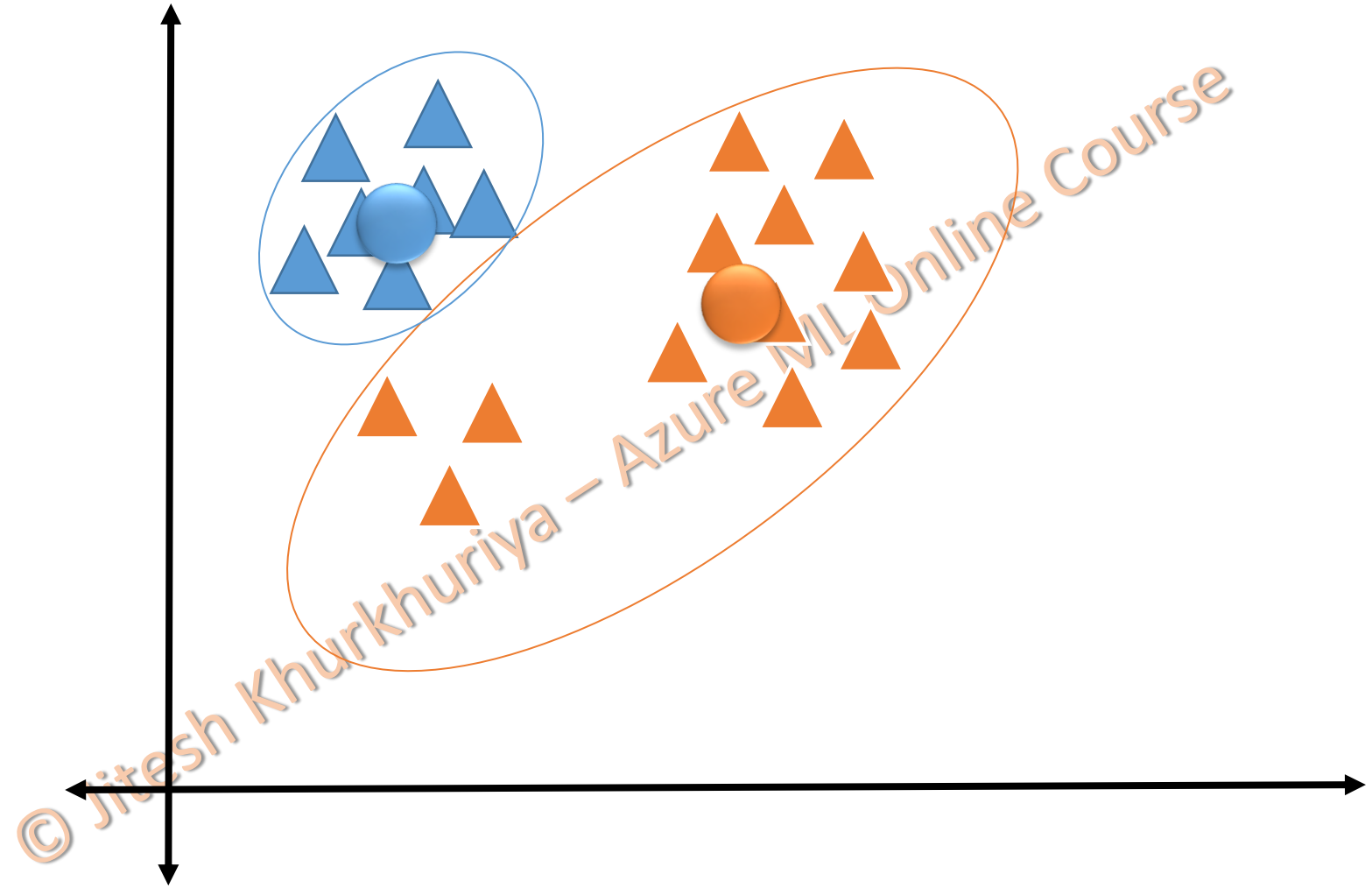

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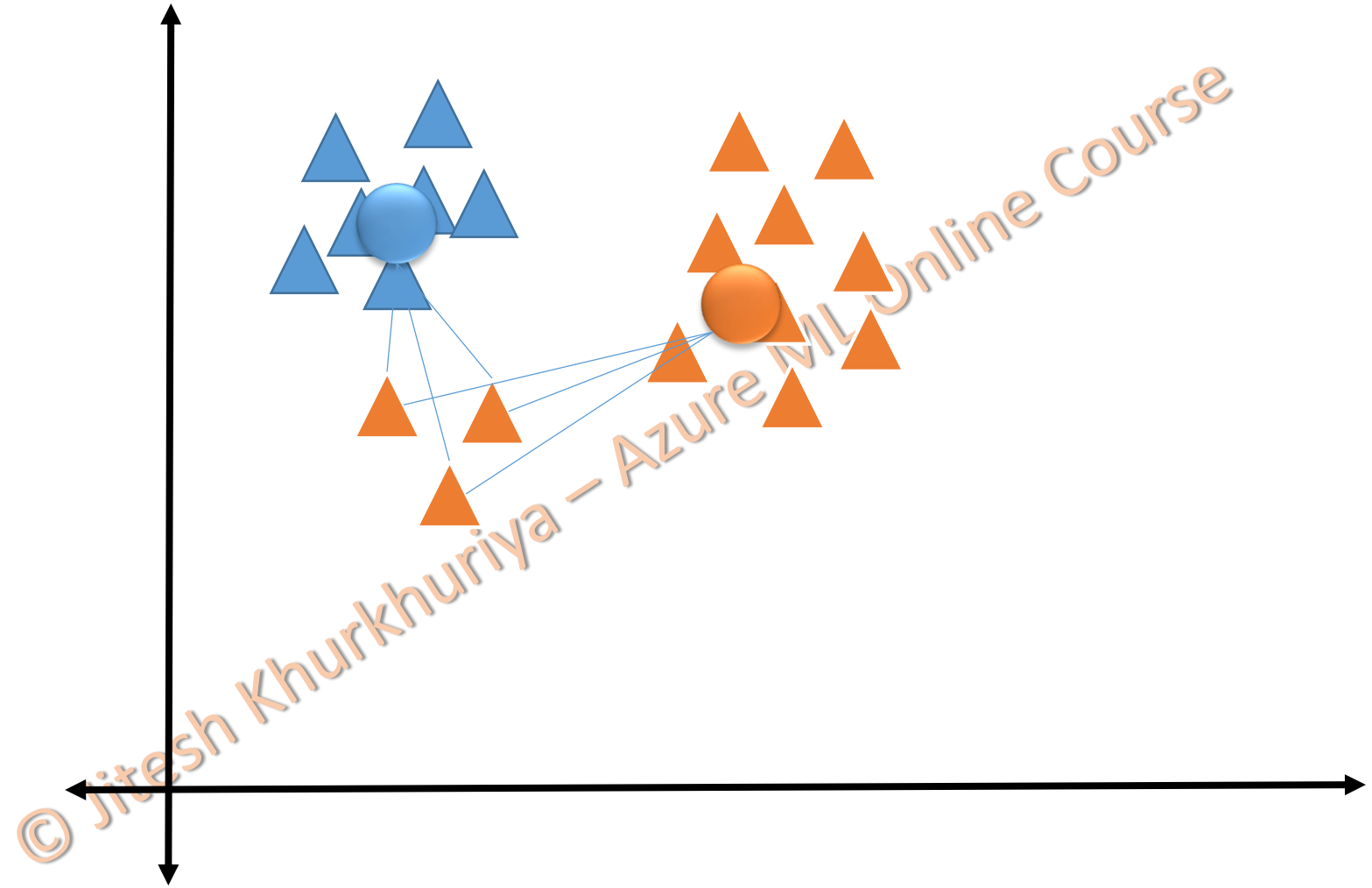

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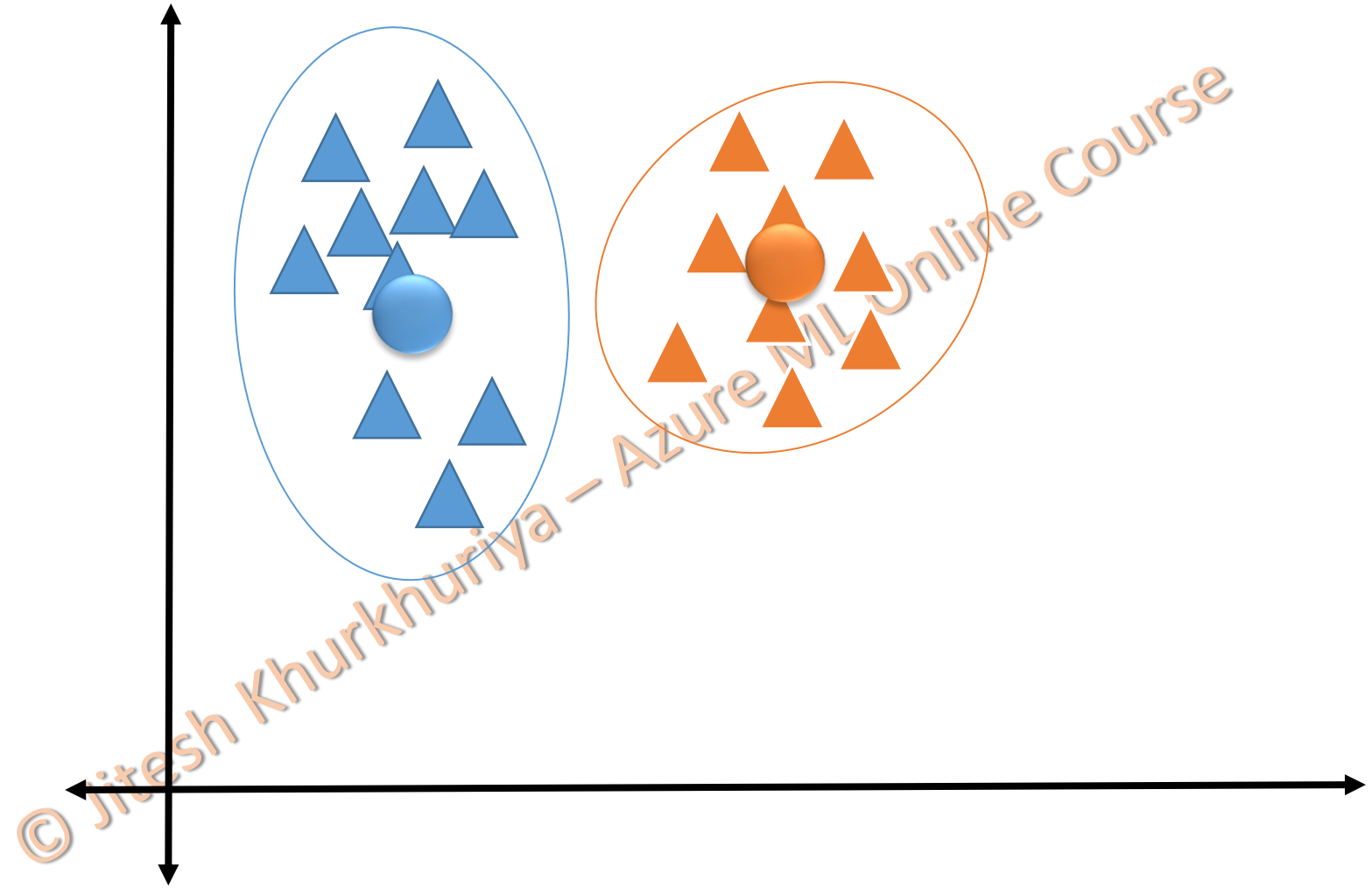
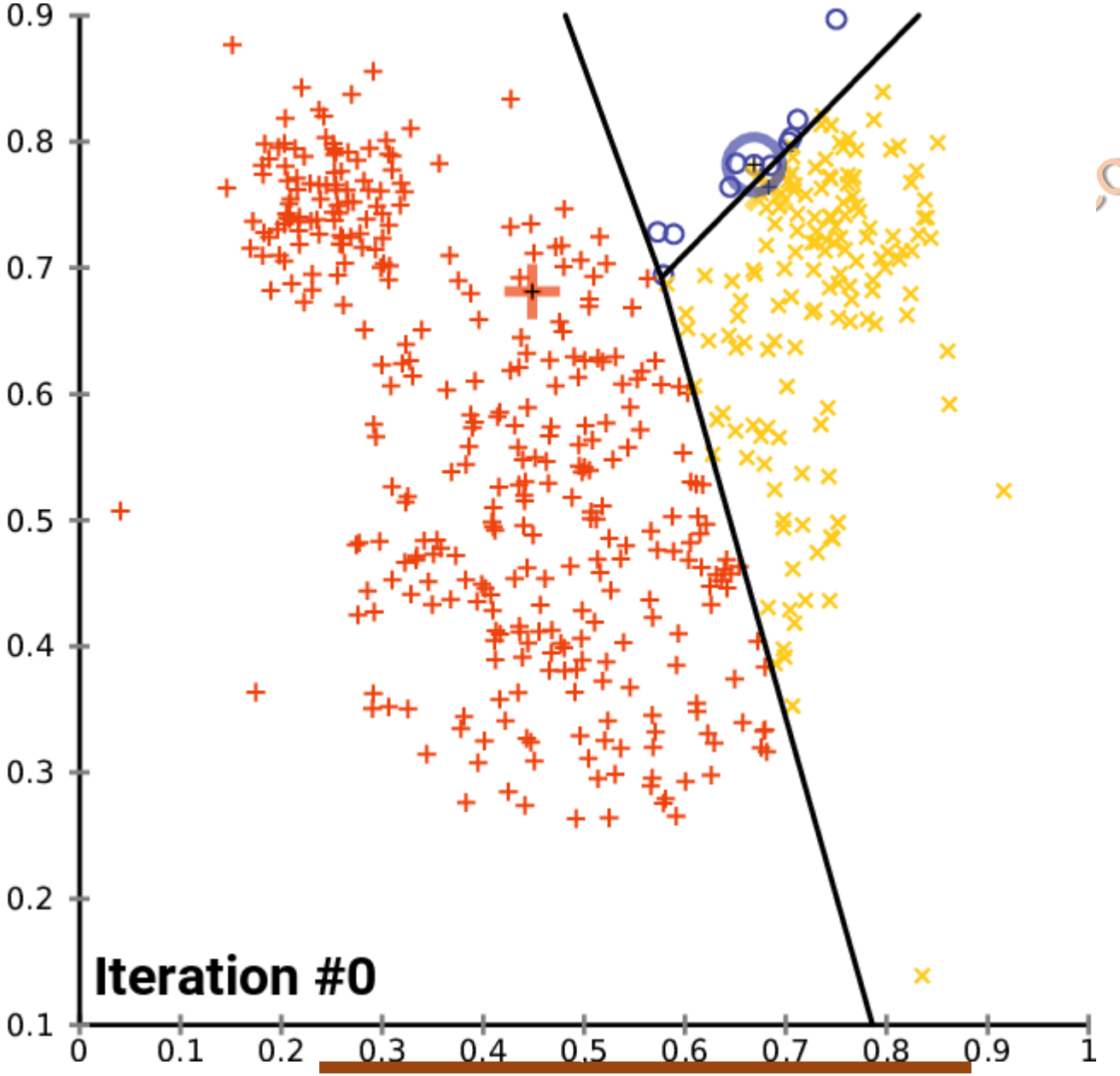


https://en.wikipedia.org/wiki/K-means_clustering User: Chire



Good Cluster Analysis

- Observations in the same group share similar characteristics
- Clusters have proportionate number observations

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Cluster Initialization

- Random – Random placement of data points into clusters
- First N or Forgy Method – First Data points at Random
- K-Means++ - Default method and an improvement over finding the initial means
- K-Means++ Fast – Optimised for faster clustering
- Evenly
- Use Label Column

Thank You and Have a Great Time !