

# **Unsupervised Learning**

# No supervision No labels

Looks for previously undetected patterns in the data, with minimal human supervision. And, most of all, no human labeled data.

# Main Methods

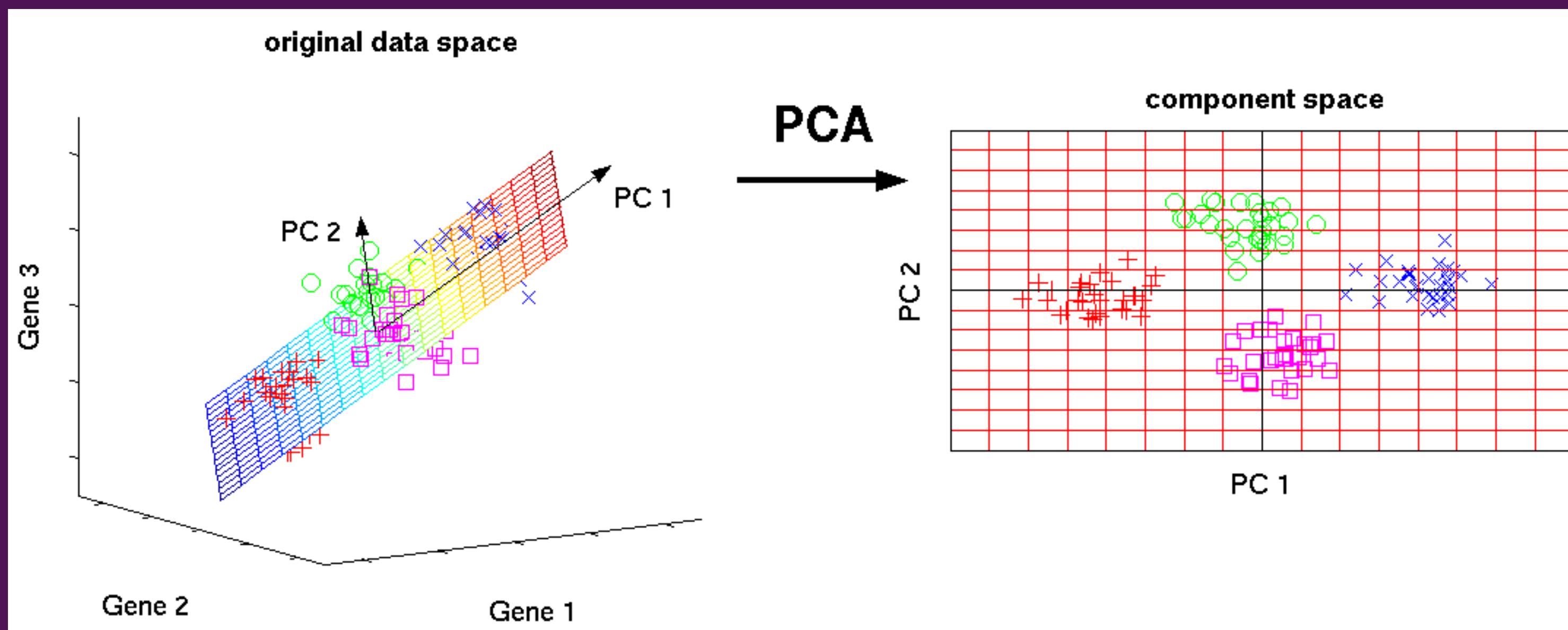
## Principal Component Analysis (PCA)

Frequently used for reducing the dimensionality of data.

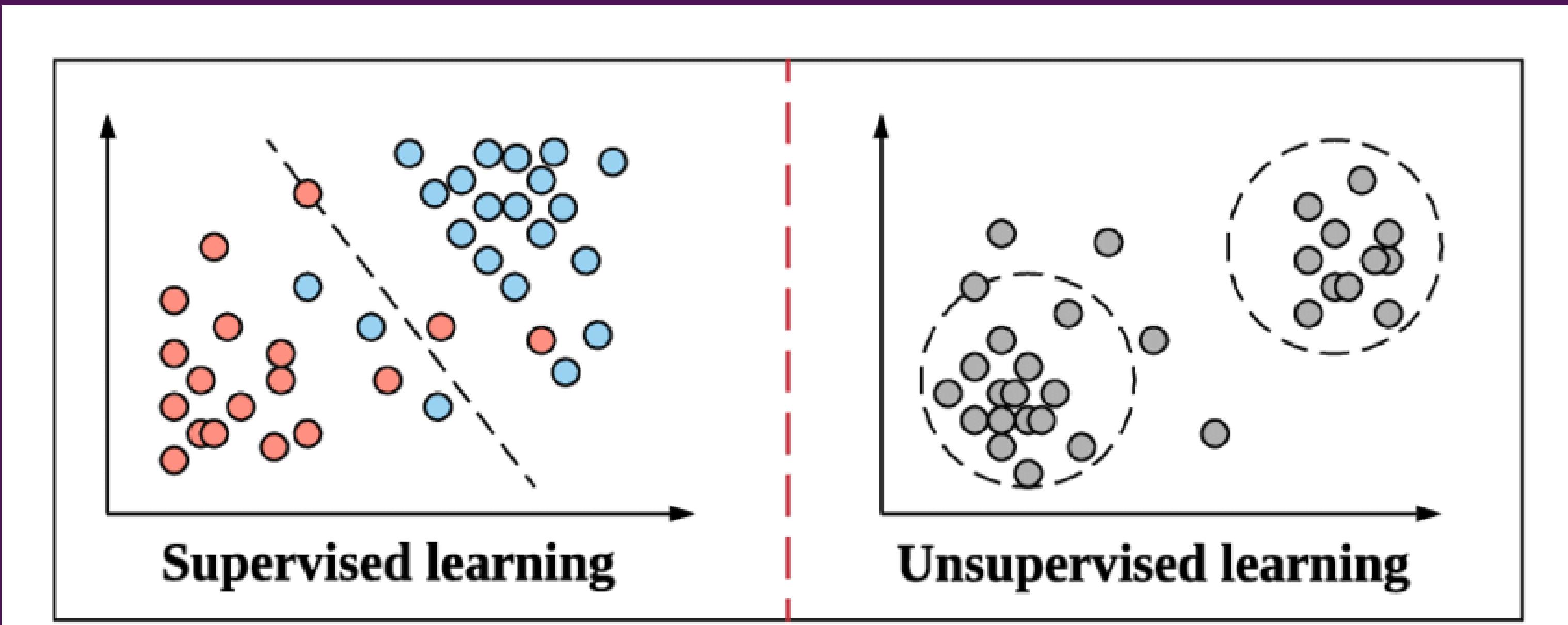
## Cluster Analysis

Grouping (Clustering) data that has not been classified or categorized. Data points within a cluster are, in some sense, more similar to each other than data points from other clusters.

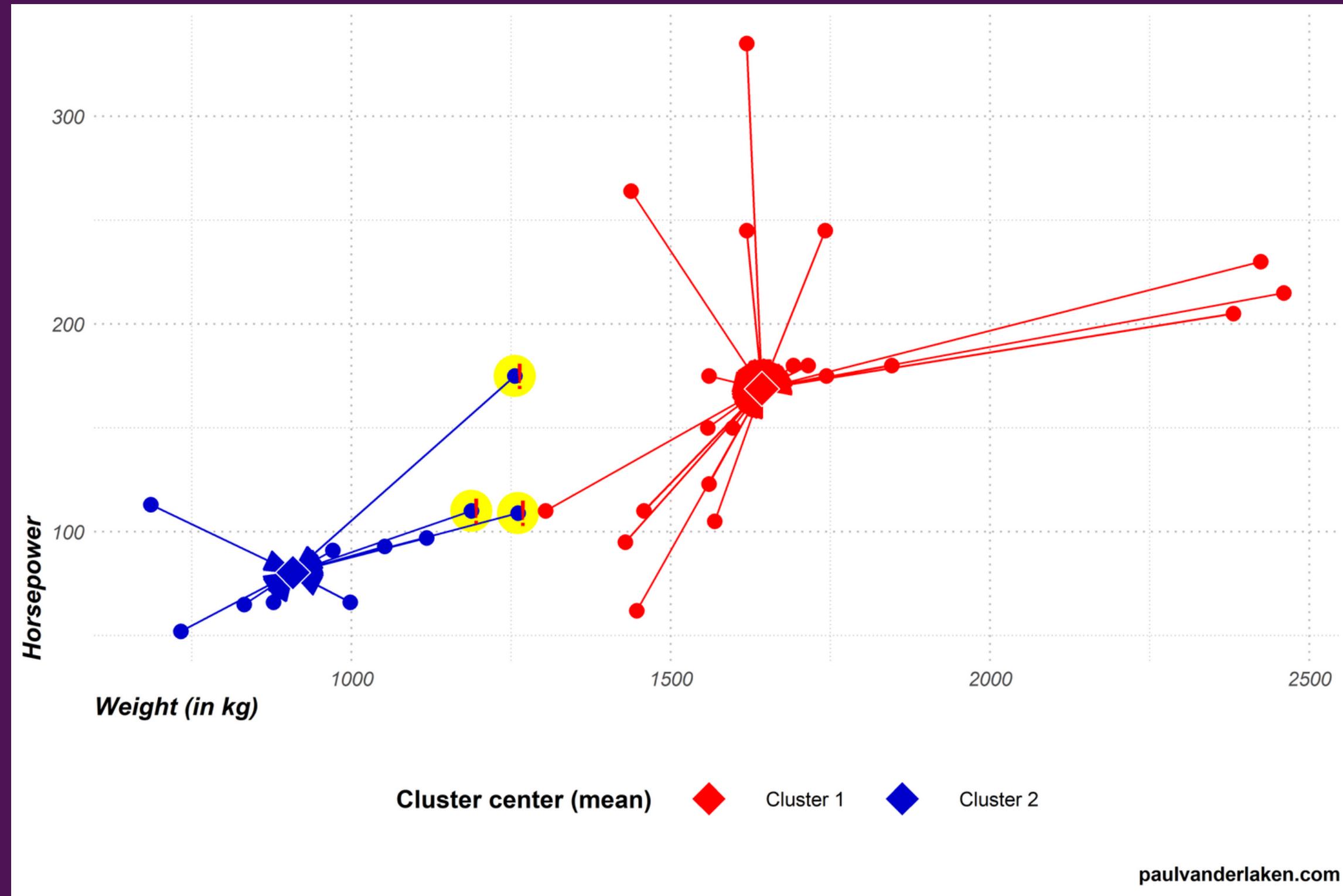
# PCA



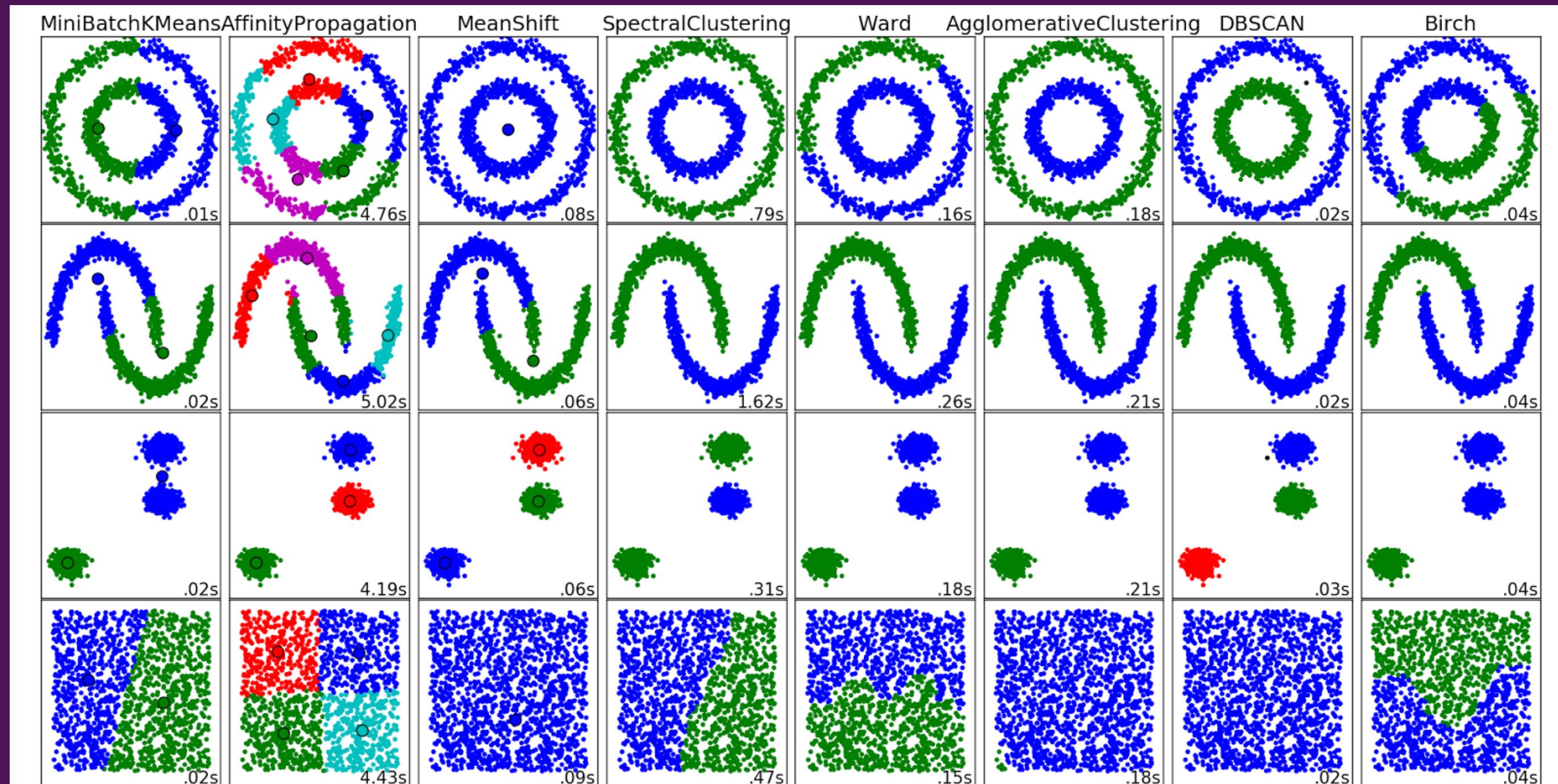
# Clustering



# K-Means



# There are many different clustering models



# DBSCAN

Density-based spatial clustering of applications with noise



# Hierarchical Clustering

