

# Clustering for Disease Subtypes

Discover hidden patient subgroups with distinct characteristics

## K-means

Fast, scalable clustering with predefined number of clusters

Cancer subtypes from gene expression

## Hierarchical Clustering

Dendrogram-based, no need to specify K upfront

Patient stratification visualization

## DBSCAN

Density-based, finds arbitrary shapes, handles outliers

Anomaly detection in clinical data

## Consensus Clustering

Robust clustering through multiple runs and voting

Stable disease subtype identification