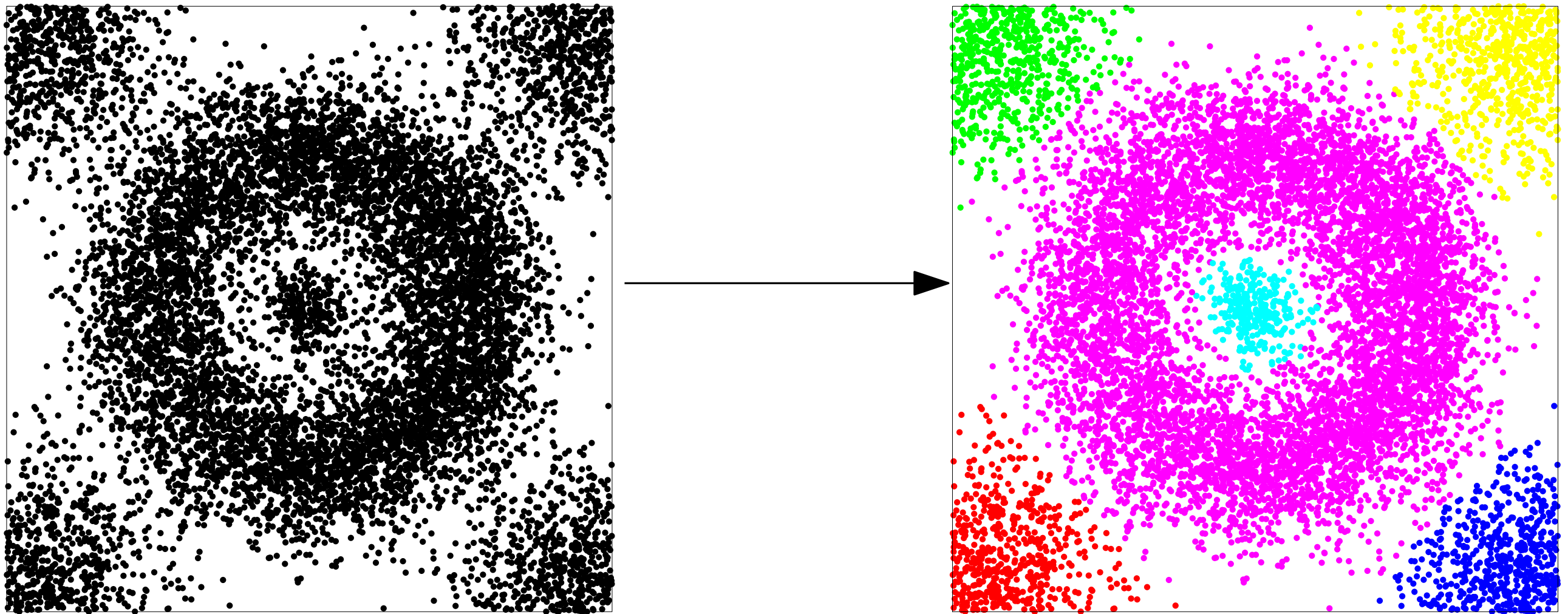


Cluster Analysis

Input: a finite set of observations:

- point cloud with coordinates
- distance / (dis-)similarity matrix



Task:

partition the data points into a collection of *relevant* subsets called clusters

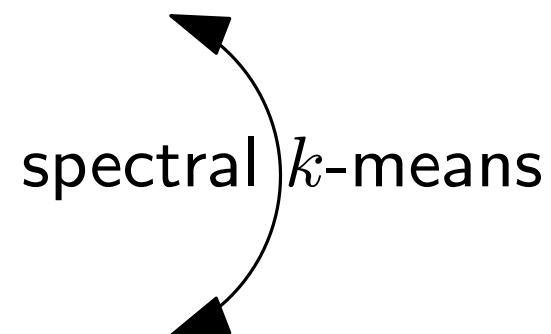
A Wealth of Approaches

Variational

- k -means / k -medoid
- EM
- CLARA

Spectral

- Normalized Cut
- Multiway Cut



Hierarchical divisive/agglomerative

- single-linkage
- BIRCH

Density thresholding

- DBSCAN
- OPTICS

Mode seeking

- Mean/Medoid/Quick Shift
- graph-based hill climbing

Valley seeking

- [JBD'79]
- NDDs [ZZZL'07]

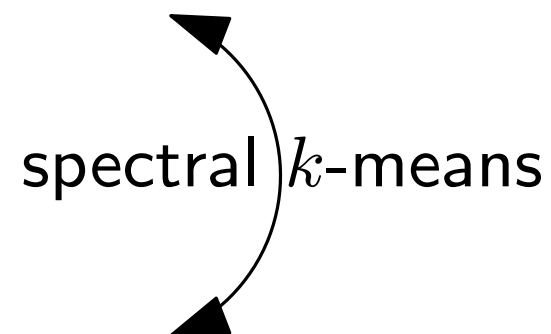
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