

The background features a collage of abstract data visualizations. It includes network graphs with nodes and edges in various colors (red, green, blue, orange), a grid of small plus signs, and a dense field of small dots. A white banner with a grey border is positioned across the middle of the image.

# Basic Concepts of Density-Based Clustering



# Density-Based Clustering Methods

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- ❑ Clustering based on density (a local cluster criterion), such as density-connected points
- ❑ Major features:
  - ❑ Discover clusters of arbitrary shape
  - ❑ Handle noise
  - ❑ One scan (only examine the local region to justify density)
  - ❑ Need density parameters as termination condition
- ❑ Several interesting studies:
  - ❑ DBSCAN: Ester, et al. (KDD'96) To be covered in this lecture
  - ❑ OPTICS: Ankerst, et al (SIGMOD'99) To be covered in this lecture
  - ❑ DENCLUE: Hinneburg & D. Keim (KDD'98)
  - ❑ CLIQUE: Agrawal, et al. (SIGMOD'98) (also, grid-based) To be covered in this lecture