

The background features a complex, abstract design. It includes a grid of small, light-colored dots, a network of thin, intersecting lines in shades of red and orange, and a large, irregular shape composed of many small triangles. The overall color palette is muted, with earthy tones and a touch of teal.

Basic Concepts of Density-Based Clustering

Density-Based Clustering Methods

- ❑ 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