

DBSCAN - Density-based clustering?

Density-Based Clustering refers to one of the most popular unsupervised learning methodologies used in model building and machine learning algorithms. The data points in the region separated by two clusters of low point density are considered as noise. The surroundings with a radius ϵ of a given object are known as the ϵ neighborhood of the object. If the ϵ neighborhood of the object comprises at least a minimum number, MinPts of objects, then it is called a core object.

There are two different parameters to calculate the density-based clustering

E_{PS} : It is considered as the maximum radius of the neighborhood.

MinPts: MinPts refers to the minimum number of points in an Eps neighborhood of that point.

$NE_{PS}(i) : \{ k \text{ belongs to } D \text{ and } \text{dist}(i,k) \leq Eps \}$

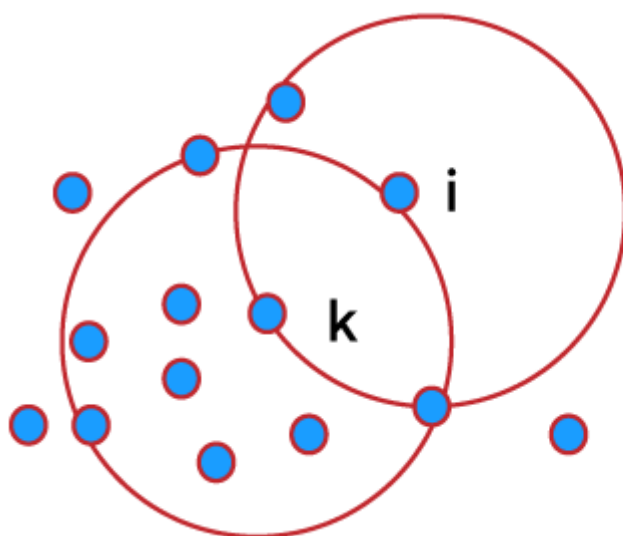
Directly density reachable:

A point i is considered as the directly density reachable from a point k with respect to Eps , MinPts if

i belongs to $NE_{PS}(k)$

Core point condition:

$NE_{PS}(k) \geq \text{MinPts}$



MinPts = 5
Eps = 1 cm