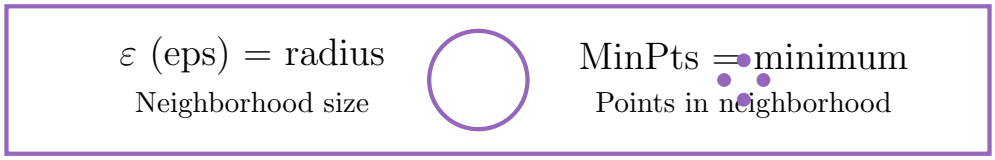
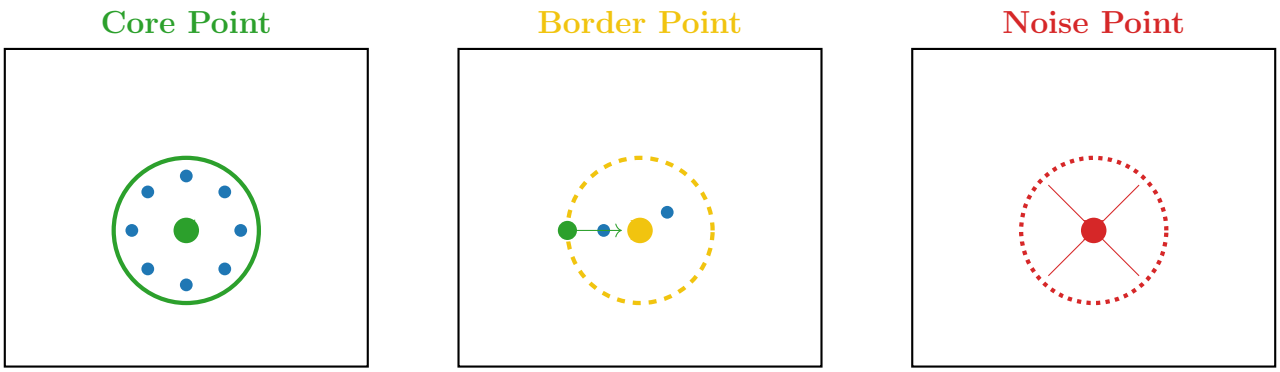
Advanced Discovery: DBSCAN Algorithm

Density-Based Spatial Clustering of Applications with Noise

Core Concept: Density = Connectivity



Three Types of Points

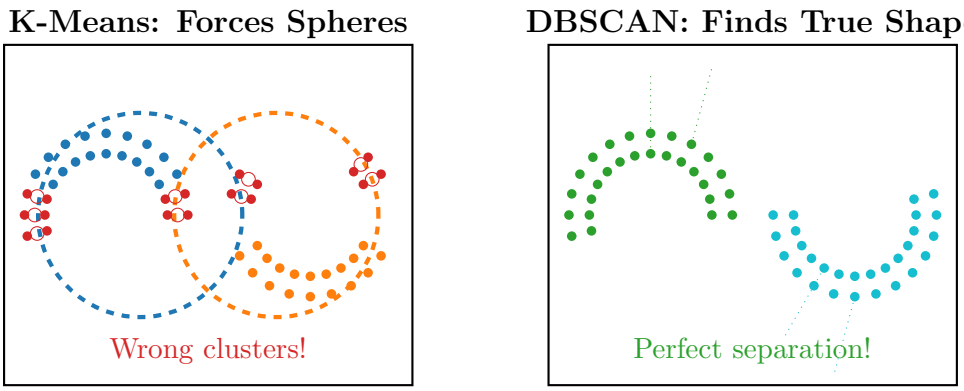


$\geq$ MinPts in ε

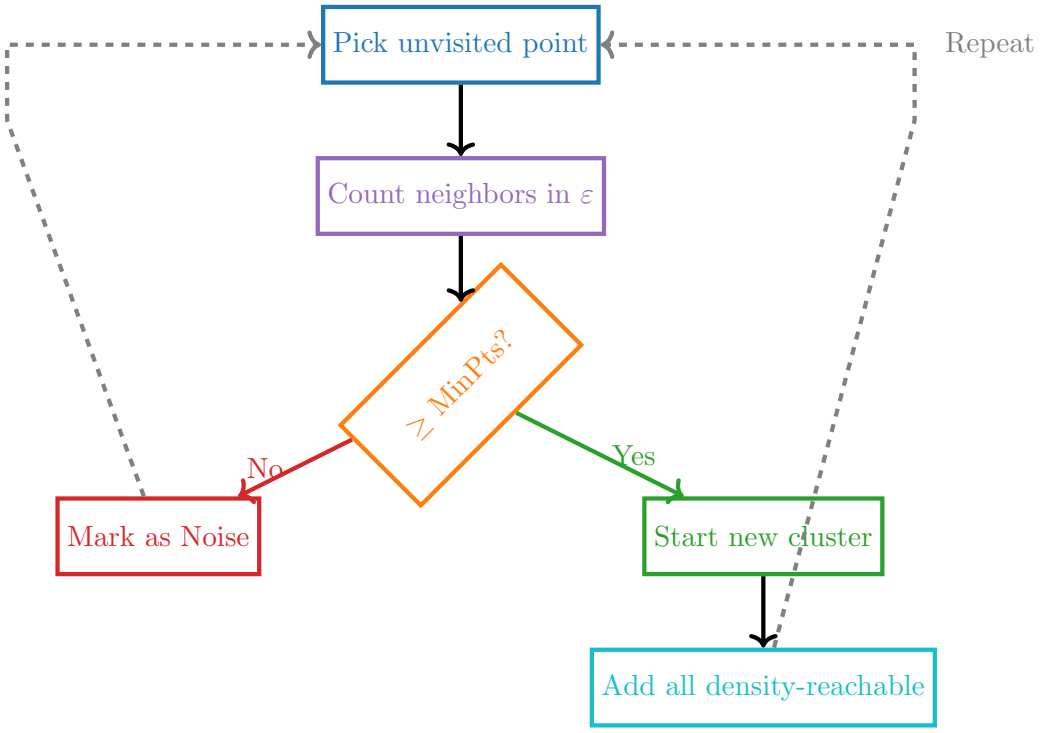
$<$ MinPts but reachable from core

Not reachable from any core

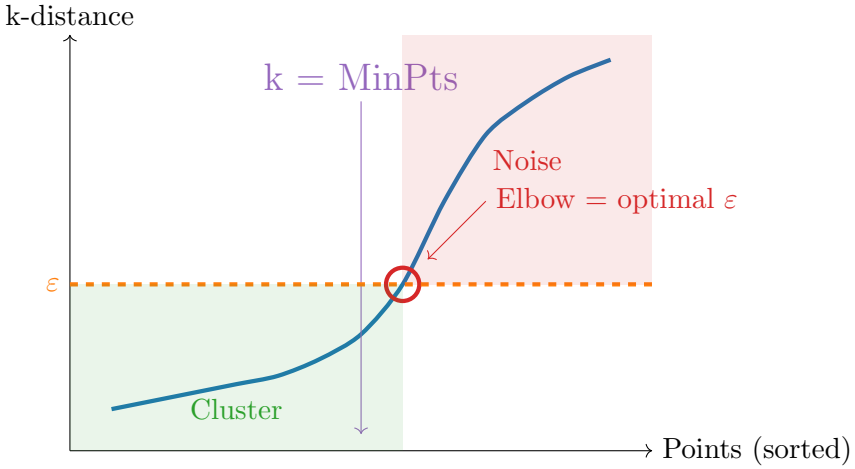
DBSCAN vs K-Means: Shape Discovery



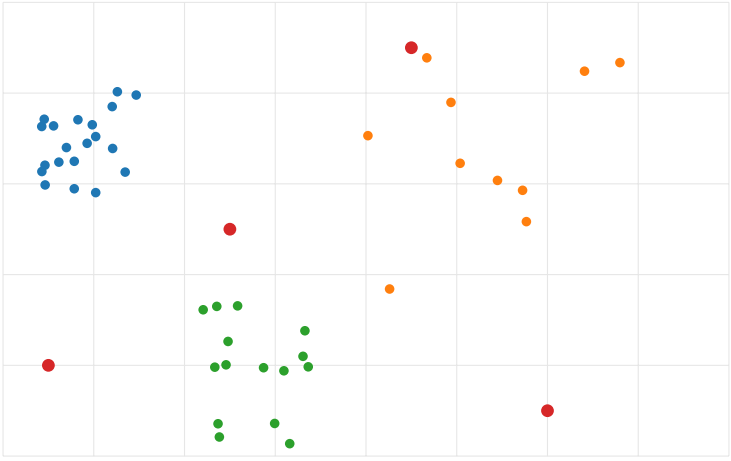
Algorithm Flow: Growing Clusters



Parameter Selection: The ε-MinPts Dance



Discovery Challenge: Optimal Parameters



One ε, One MinPts: Can you find all 3 clusters?

$\varepsilon =$ _____ MinPts = _____

Next: Hierarchical - When you need clusters at every scale!