Abstract

Spectral clustering in spatial data mining plays a very important and innovative role due to its capacity of handling of large size of data, effective application of linear algebra to solve graphical representation and problems, and application of very low cost of clustering algorithms like k-nearest or ε neighbourhood graph. Most of the research in this area is focused on efficient query processing for static or dynamic data. This paper extends the current spatial data mining algorithms to efficient mode of spectral clustering algorithms with the application of Laplacians graph properties and present new approach of spatial data mining methods. These algorithms and methods are used to scratch new knowledge from huge data sets having property of graphs. Obtained results of spectral clustering shows various aspects of spatial data mining and their applications. Spatial database systems contains various spatial objects representing natural objects like mountain or river, infrastructure like railroad, location, highways with spatial and as well as non spatial attributes. This paper reveals very important and uncovered aspects of spectral clustering.
Spatial Data Mining with the Application of Spectral Clustering: A Trend Detection Approach

References


Index Terms

Computer Science Information Sciences

Keywords

Spectral clustering, Graph Laplacian, spatial data mining, spatial data base systems.