Abstract

The innovative process for spatial data is more risk when compared to relational data. This can be functional for the efficiency and effectiveness of algorithms as well as the difficulty of possible patterns that can be establish in a spatial database. To optimize the rules generated by Association Rule Mining (Apriori method) [1] use hybrid evolutionary algorithm. This research paper present a novel hybrid evolutionary algorithm (HEA) [2] which uses particle swarm optimization for spatial association rule mining with clustering. The proposed HEA algorithm is to enhance the performance of Multi objective genetic algorithm [3][4] by incorporating local search, particle swarm optimization (PSO), for Multi objective association rule mining. Thereafter, particle swarm is performed to come out of local optima. From the experiment results, it is shown that the proposed HEA algorithm has superior performance when compared to other existing algorithms.

References

Estimation of Evolutionary Optimization Algorithm for Association Rule using Spatial Data Mining

- Xueping Zhang; Yixun Liu; Jiayao Wang; Gaofeng Deng; Chuang Zhang, "Hybrid Particle Swarm Optimization with GA Mutation to Solve Spatial Clustering with Obstacles Constraints", Computational Intelligence and Design, 2008, 299 – 302.
- Jiangping Chen; Yanan Chen; Jie Yu; Zhaohui Yang, "Comparisons with spatial autocorrelation and spatial association rule mining;", Spatial Data Mining and Geographical Knowledge Services (ICSDM), 2011 IEEE International Conference on July 1 2011.
- Xueping Zhang; Yixun Liu; Jiayao Wang; Gaofeng Deng; Chuang Zhang, "Hybrid Particle Swarm Optimization with GA Mutation to Solve Spatial Clustering with Obstacles Constraints", Computational Intelligence and Design, 2008, 299 – 302.
- Teng-Sheng Moh, Ameya Sabnis, "Applying Hybrid KEPSO Clustering to Web Pages; ACMSE &apos;10, April 15-17, 2010, Oxford, USA.

Index Terms

Computer Science  Artificial Intelligence
Keywords
Spatial Data Mining  Apriori Algorithm  Satellite Data  Hybrid Evolutionary Algorithm  Particle Swarm Optimization