Abstract

Clustering is a data mining technique for the analysis of data in various areas such as pattern recognition, image processing, information science, bioinformatics etc. Hierarchical clustering techniques form the clusters based on top-down and bottom-up approaches. Hierarchical agglomerative clustering is a bottom-up clustering method. Ant based clustering methods form clusters by picking and dropping the objects according to surroundings. This paper proposes an agglomerative clustering algorithm, AGG_ANTS based on ant colonies. AGG_ANTS clusters the objects by moving ants on the grid and merging their loads according to similarity resulting in bigger clusters. It avoids the calculation of similarity in the surrounding and pick/drop of objects again and again resulting in a more efficient algorithm.

References

Agglomerative Ants for Data Clustering

- Shanfei Li, Wei Huang, Kewei Yang, Yuejin Tan, "An Improved Ant-Colony Clustering Algorithm Based On the Innovational Distance Calculation Formula", 2010 Third International Conference on Knowledge Discovery and Data Mining, pp. 342-346, 2010.

Index Terms

Computer Science
Pattern Recognition
Keywords
Clustering  Hierarchical  Agglomerative  Ant Colony