Probabilistic Distance Clustering: A Spatial Clustering Approach for Remote Sensing Imagery

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Abstract

Spatial clustering has been widely applied in various applications, especially in remote sensing technology. Clustering the geographical nature of the remote sensing imagery is challenging due to its wide and dense spatial distribution. Renowned clustering algorithms such as k-means and other probabilistic clustering algorithms have been reported in the literature. However, they are not robust to handle such peculiar data distribution. This paper employs probabilistic d – clustering algorithm to cluster the geographical information of the remote sensing imagery. The methodology considers diverse neighborhood connectivity and degree of connectivity to investigate the performance of probabilistic d – clustering algorithm. Experimental investigation demonstrates that probabilistic d – clustering algorithm is better than k – means clustering algorithm in handling remote sensing imagery.

References

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Index Terms

Computer Science

Image Processing

Keywords

Spatial clustering; probabilistic d – clustering; remote sensing; geographic clustering