A Parallel Weighted Decision Tree Classifier for Complex Spatial Landslide Analysis: Big Data Computation Approach

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Authors:

P. Anbalagan, R.M. Chandrasekaran

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Abstract

Effective and efficient strategies to acquire manage and analyze data leads to better decision making and competitive advantage. The development of cloud computing and the big data era, brings up challenges to traditional data mining algorithms. The processing capacity, architecture and algorithms of traditional database system are not coping with big data analysis. Big Data are now rapidly growing in all science and engineering domains, including biological, biomedical sciences and disaster management. The characteristics of complexity formulate an extreme challenge for discovering useful knowledge from the big data. Spatial data is complex big data. The aim of this paper is to propose Parallel Weighted Decision Tree Classifier to handle complex spatial landslide big data using Map Reduce programming model. The Proposed Classifier performance is validated with massive dataset. The results indicate that our classifier exhibits both time efficiency and scalability.

References
Keywords

Big Data, Classifier, Spatial Data, Map Reduce, Landslide..