عنوان مقاله:

CBGDC: A new genetic center based data clustering algorithm based on K-means

محل انتشار:

فصلنامه بین المللی مهندسی مکاترونیک ، برق و کامپیوتر, دوره 4, شماره 13 (سال: 1393)

تعداد صفحات اصل مقاله: 20

نویسندگان:

Arash Ghorbannia Delavar - *Department of Computer Science, Payame Noor University, PO BOX 19395-3697, Tehran, Iran*

Gholam Hasan Mohebpour - *Department of Computer Science, Payame Noor University, PO BOX 19395-3697, Tehran, Iran*

خلاصه مقاله:

In this paper, a Center Based Genetic Data Clustering (CBGDC) algorithm based on K-means is proposed. This algorithm is able to detect arbitrary shape clusters and will not converge to local optima. In proposed algorithm a new population initialization method and reinsertion way have been used. Crossover and mutation operators will not be done with a fix probability and a new fitness function based on Silhouette index will be used toevaluate fitness of chromosomes faster. The efficiency of CBGDC has been compared with original genetic data clustering and K-means algorithm on artificial and real life datasets and experimental results show that the CBGDC will decrease clustering error more than original genetic data clustering and K-means.

کلمات کلیدی:

Data mining, data clustering, genetic algorithm, partitioning, K-means algorithm