Abstract

In this study a simple deterministic clustering method, called FICA (Fast Incremental Clustering Algorithm) is proposed. Its initialization phase consists to run the Katsavounidis, Kuo & Zhang (KKZ) seed procedure, and its incremental step consists simply to assign each data point to its nearest cluster, then the centroid of the last modified cluster is updated. The proposed approach has a lower computational time complexity than the famous k-means algorithm. We evaluated its performance by applying on various benchmark datasets and compare with a related deterministic clustering method: KKZ_ k-means (k-means initialized by KKZ). Experimental results have demonstrated that the proposed approach is effective in producing consistent clustering results in term of average Silhouette index.

References


Index Terms

Computer Science  Algorithms

Keywords

Clustering, k-means, KKZ, Silhouette.