

## Abstract

Efficient document clustering plays an important role in organizing and browsing the information in the World Wide Web. K-means is the most popular clustering algorithms, due to its simplicity and efficiency. However, it may be trapped in local minimum which leads to poor results. Recently, cuckoo search based clustering has proved to reach interesting results. By against, the number of iterations can increase dramatically due to its slowness convergence. In this paper, we propose an improved cuckoo search clustering algorithm in order to overcome the weakness of the conventional cuckoo search clustering. In this algorithm, the global search procedure is enhanced by a local search method. The experiments tests on four text document datasets and one standard dataset extracted from well known collections show the effectiveness and the robustness of the proposed algorithm to improve significantly the clustering quality in term of fitness function, f-measure and purity