

## عنوان مقاله:

IKM-SARAVOA: A New Hybrid-based Search and Rescue Algorithm with African Vulture Optimization Algorithm for Data Clustering

## محل انتشار:

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## خلاصه مقاله:

Clustering is an essential technique for analyzing unlabeled data. In the past few years, population-based meta-heuristic algorithms have been effectively used to solve optimization problems including data clustering. In this paper, a new model based on the combination of Search and Rescue Optimization Algorithm (SAR) with African Vulture Optimization Algorithm (AVOA) named Improved K-Means Search and Rescue with African Vulture Optimization Algorithm (IKM-SARAVOA) is proposed. Two common obstacles in achieving optimal clustering, i.e., premature convergence and getting stuck in local optima can be challenging for the complex clustering problem. In the IKM-SARAVOA model, the SAR is improved by the AVOA in order to optimally cluster and discover cluster centers. AVOA enhances the scope of exploration in SAR. The evaluation of the IKM-SARAVOA model has been performed on six standard datasets from the UCI machine learning database. The fitness function is set based on the sum of squared errors. The results show that the IKM-SARAVOA model has better accuracy compared to SAR and AVOA. IKM-SARAVOA model has achieved fast convergence in a smaller number of iterations.

## کلمات کلیدی:

Clustering, Search and Rescue Algorithm, African Vulture Optimization Algorithm, convergence

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