

Optimization Local Search Using VNS Algorithm for Probabilistic Clustering

A. Bessadok, P. Hansen and A. Rebaï

Finding maximum likelihood parameter values for Finite Mixture Model (FMM) is often done with Expectation Maximization (EM) algorithm. However, the choice of initial values can severely affect the time to attain convergence of the algorithm and its efficiency in finding global maxima. We alleviate this defect by embedding the EM algorithm within the Variable Neighborhood Search (VNS) metaheuristic framework. Computational experiment in several problems in literature as well as larger ones are reported.