

ABSTRACT

Clustering is a technique in data mining that enough important and a lot of used. The main objective in cluster method is the assignment of a set of data into subsets (called *clusters*) so that data in the same cluster are similar in some sense and different in other cluster. One of cluster method that often used is fuzzy C-means. The problem on clustering using FCM is cluster result sometime doesn't reach the global optimum. Therefore is needed an optimization function to handle this problem.

Evolution Programming (EP) as a type of EAs is often used to solve optimization problems. In this final project is created to process clustering data testing with FCM that implements EP on cluster center searching. Dataset that used on this system test are iris and animalsNorm dataset.

Based on the observation, by EP applying in FCM process can give better result than using FCM conventional in cluster validity index. However, the weakness from this method lie at the time computing because of process EP that more complex.

Keywords: clustering, Fuzzy C-Means (FCM), Evolutionary Programming (EP), cluster validity