Abstract

Located right above the ring of fire makes Indonesia prone to natural disasters, especially earthquakes. With the number of earthquakes that have occurred, disaster mitigation is very much needed. The use of data mining methods will certainly help in disaster mitigation. One method that can be used is clustering. The clustering algorithm used in this study is k-Medoids, The purpose of this study itself is to analyze the spatial patterns of earthquake distribution in Indonesia. The results of the cluster using k-medoids were also compared with the method previously utilized, namely K-Means. The data used are earthquake data from all regions in Indonesia during 2014-2018 that were recorded by the United State Geological Survey (USGS). From the cluster results obtained, the highest value of silhouette is 0.4574067 with the number k = 6. In addition, the study also found that k-medoids provide better silhouette values than k-means. The analysis of each clustering experiment is presented in this paper.

Keywords: clustering,data mining, earthquake, k-medoid.