

ABSTRACT

Being on three plates of the earth and the presence of many active volcanoes make Indonesia worthy of the ring of fire title. This of course makes Indonesia one of the epicenters of the earthquake. Every year thousands of earthquakes occur, each of which has different characteristics from each other in terms of the depth of the epicenter, earthquake strength, longitude, and other seismic parameters.

In this research, earthquake data is grouped or clustered based on the proximity of certain seismic characteristics. Earthquake data clustering is done using the BIRCH algorithm, which is one of the data mining algorithms that can cluster data based on data characteristics. The assessment of the accuracy of the resulting cluster determination is then measured by the silhouette score and Dunn's index as performance parameters of the commonly used clustering algorithm.

The results of clustering obtained from this research are expected to be useful information for the field of seismicity, which can be developed for disaster mitigation purposes, ease of data recapitulation, and others.

Keywords : BIRCH, Clustering, Earthquake, silhouette score