

ABSTRACT

Covid-19 is a disease caused by the SARS-Cov-2 virus which causes respiratory problems with other mild symptoms. The Covid outbreak was first detected in the Wuhan area, China in December 2019. The Covid-19 outbreak itself has currently hit many countries, one of which is Indonesia. Covid-19 in Indonesia was first detected in early March 2020. Of the number of Covid-19 cases in Indonesia, one of the cities in the province of West Sumatra has a fairly high number of Covid-19, namely the city of Padang. In the city of Padang itself, the spread of Covid-19 has spread to several sub-districts, one of which is the East Padang sub-district. In East Padang District, it is divided into 10 sub-districts, one of the sub-districts with the highest number of Covid-19 cases is the Kubu Dalam Parak sub-district. Therefore the researchers collected data on Covid-19 in Padang Timur District to see how much the positive lanes for Covid-19 increased in Padang Timur District. To find out how the strategy is to reduce the rate of increase in Covid-19, researchers utilize a branch of science from artificial intelligence, namely machine learning which is capable of clustering (grouping) on Covid-19 case data in Padang Timur District. This clustering can be done using an algorithm, namely the K-Medoids algorithm to see the similarities or similarities of each cluster. The Covid-19 data from Padang Timur District that has been obtained is analyzed. The analysis carried out in this study is data processing, adding the number of clusters, calculating K-medoid on Python and also calculating K-medoid manually. The researcher conducted a cluster analysis and got the results of cluster 1 with the completeness (Kubu Dalam Parak Karakah, Andalas, Jati) being a cluster with a proportion of 54% being a cluster with a high category of positive Covid numbers. Cluster 2 is a cluster with kelurahan (Gantiang Parak Gadang, Sawahan, Parak Gadang Timur) is a cluster with a proportion value of 25% with the cluster category being moderate. And also for cluster 3 with kelurahan (Kubu Marapalam, Jati Baru, Sawahan Timur, Simpang Haru) a cluster with a positive proportion of 21% is a cluster with a low category. Based on the results obtained, validation was carried out using the elbow method, and producing an SSE (sum of square error) value of 1513.4599934904766 in the resulting clusters, namely 3 clusters and the resulting clusters were good clusters based on the results of validation using the elbow method. Based on the calculation results and also cluster validation, it can be interpreted that of the three clusters tested the cluster which has the highest positive proportion level is cluster 1 with a percentage value of 54% with a high positive category.

Keywords: Covid-19, Clustering, K-Medoids, Elbow