ABSTRACT

The use of electrical energy has become a basic need, most users use electricity without realizing the amount of electricity used in that period can make electricity use soar because there is no control of electricity use. Clustering or grouping this data is needed to be able to find out the use of excess electrical energyin a building and can be used to display information about the use of electrical energy in a building on a website.

In this research, a system is designed that can provide information about theelectricity usage of a building by using data grouping. This data grouping uses unsupervised machine learning with the Mini Batch K-Means algorithm and is divided into three groups, namely high, normal and low electrical energy usage. Data grouping will be carried out to monitor the use of electrical energy per month,the use of electrical energy per day and the use of electrical energy in buildings.

The results of the tests that have been carried out show that the silhouette score based on clustering per day using Building N data is worth 0.62 and the monthly clustering results for Building N data are 0.57, all of these results are included in the good structure and the results of annual clustering data for BuildingN are 0.57. 0.73 is included in the strong structure. The results of clustering using dummy data for Building P and Building O are 0.55 per day which is included in the good structure, 0.50 per month is included in the weak structure and 0.72 is included in the strong structure per year.

Keywords: Electrical energy, clustering, mini batch k-means clustering, data grouping.