

CLUSTERING METHOD FOR NUMERIC-LINGUISTIC DATA WITH A 2-TUPLE LINGUISTIC APPROACH

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ABSTRACT

The rapid pace of information technology fosters large amounts of data collection. The data is stored, utilized, and analyzed for further interest in various fields. The data is not only numeric (crisp, strict), but also fuzzy data, which is data that contains uncertainty. Fuzzy data can be represented using linguistic variables, which are then called fuzzy linguistics. One method that is related to the analysis and processing of large amounts of data is Clustering. In order to accommodate the analysis of combined numerical and linguistic data, it is necessary to develop a clustering method for the combined data. The approach used to process numerical and linguistic combinations is a 2-tuple linguistic approach. This approach can overcome the loss of information due to combining different types of data.

This study aims to arrange the stages of clustering with the K-Means method on a combination of numerical and linguistic data, using a 2-tuple linguistic approach. The results of the study are obtained by clustering algorithm based on the K-means method for a combination of numerical and linguistic data, which uses the 2 tuple linguistic approach. The existence of alpha parameters in the representation of 2 tuple linguistic data (s, α) , shows the degree of accuracy of the final results of the linguistic values obtained.

One of the targets achieved through this research is the compilation of scientific articles in the field of computer science, which are published in reputable international-level scientific forums.

Kata Kunci: *clustering, K-Means, 2-tuple linguistic approach*