Abstract

Missing value is a common problem in statistical analysis. The existence of missing value could diminish some necessary and usefull data information. One of the ways in handling missing value is filling the missing data with the plausible value predicted from the available information in data. This method is called imputation method. One of the imputation methods that being analysed in this final paper is *Fuzzy K-Means Clustering*. *Fuzzy K Means Imputation* (FKMI) is the development of K-means clustering in the application of fuzzy systems for missing value imputation. In fuzzy clustering, each data object has a degree of membership that indicates the level of each object belongs to a particular cluster.

In this final paper, FKMI is implemented and tested to impute several percentage of missing value. The performance of imputation method is measured by *Normalized Root Mean Squared Error* parameter (NRMSE). The impact of data imputation to *Classification* process is also analysed. The performance parameter for this process are *Precision, Recall* and *F-measure*. Refers to the result of the experiment, FKMI is proved as a robust imputation method for handling missing value.

Keywords: imputation method, *Fuzzy K-Means Clustering Imputation* (FKMI), missing value