ABSTRACT

WANGI SARASWATI. Clustering Using Self Organizing Maps (Case Study: Child Development Data in Kabupaten Bogor). Supervised by AZIZ KUSTIYO and DWI HASTUTI.

Child development data which were gathered by the team from the Department of Family and Consumer Science, Bogor Agricultural University, require data processing to assess the characteristics of child development in Kabupaten Bogor. The purpose of this research is to implement the Self Organizing Maps (SOM) algorithm for data clustering and to obtain the characteristics from the clustering results. The data were obtained from 71 children at 2.5–3.4 years of age, 97 children at 3.5–4.4 years of age, and 126 children at 4.5–5.4 years of age. The data consist of four attributes: Cognitive, Language, Gross Motor, and Fine Motor. These data were the input for SOM algorithm. SOM clustering result was validated using Davies-Bouldin Index. The research shows that the clustering result for children at 2.5–3.4 years of age is 3 clusters, 3.5–4.4 years of age is 4 clusters, and 4.5–5.4 years of age is 3 clusters.

Keywords: Cluster Analysis, Davies-Bouldin Index, Self Organizing Maps