Abstract

In this era, the use of computer alphabets have become a common sight. Many people prefer computer alphabets over handwriting because of it's generally used and its presentation. In the other hand, the growth of digitalization of written text has been stimulating the needs for technology that is able to recognize computer alphabets along with the transition from handwriting to computer letter.

Moreover, the ramification of computer alphabet may pose a challenge to recognition process. This final project propose a construction of a computer system to recognize computer alphabets with Invariant Moment method and K-Nearest Neighbor as extraction method for characteristic and classification. Invariant moment methode is a development of centralized moment method than can solve problems related to transformation such as scaling and rotation. The method developed by Hu has been used as a method for extracting the characteristics. Furthermore, this Invariant Moment methode is combined with Image Partition. K-Nearest Neighbor (KNN) itself is a Supervised Learning method that has been used to classify an object based on the nearest learning data to the object [8]. In addition, K-Nearest Neighbor alhorithm has been considered is very simple in its implementation[6].

After several test scenarios obtained the best accuracy for Uppercase of 75.32% using a combination of the original image and the Image Partition type A and B, and KNN Euclidean method with k values = 2. As for the lowercase obtained the best accuracy of 75.96 % using a combination of the original image and the image Partition type A and B, and KNN Euclidean method with k value = 2

Keywords : computer alphabet, invariant moment, k-nearest neighbor, image partition