

ABSTRACT

Now, the individual recognition application system that uses 3D face media become research attention. The face is unique identity of each individual. One of the implementations is using the K-Nearest Neighbor classification method and as a medium for 3D face image acquisition using Kinect camera.

Face image processing in this final project research is represented in 3D image. To get the characteristics of each face image used feature extraction with the Iterative Closest Point method. While for the face recognition classification stage in this study, the method used is the K-Nearest Neighbor Euclidian distance and city block distance. The feature extraction results from the test data will be sorted based on the results of the calculation of the nearest distance and the number of K.

Output of this final project is a program that can perform individual face recognition based on 3D face images. Tests carried out on 3D face images as a result of acquisition with the Kinect camera. The acquisition was made 48 times capture of each 3D face sample. This system uses ICP and KNN euclidian distance method in the 3D face recognition case study got an accuracy of 92.85% in experiments with 25 iterations, 12 partitions and $K = 1$.

Keywords: *Face recognition, Iterative Closest Point, K-Nearest Neighbor, Sample, Acquisition*