

ABSTRACT

The development of information technology is growing increasingly rapidly, one of which is facial recognition technology. Face recognition has been used in various fields including the fields of identification and authentication. The current identification system developed utilizes the human face, every human has different facial characteristics, which can be used as identifiers or as a person's identity. Face recognition is used to control access that requires security and can be used in class attendance. The development of technology, it is expected to improve and develop facial recognition technology, so that the quality produced can be even better.

In this Final Task three dimensional face recognition design with feature extraction was carried out using the Gabor Wavelet method and feature classification using the Support Vector Machine (SVM) method. Gabor Wavelet is used to give rise to special features of facial images that have previously been convoluted to the kernel by retrieving important information from an orientation and spatial frequency. So as to produce special characteristics that can distinguish one individual from another individual. SVM is used to classify images by determining the image class based on the image obtained from the feature extraction process.

The results obtained in this Final Project is a system that can classify 3D faces. Based on the results obtained, the accuracy obtained is 78.5714% using filter 5×5 and kernel gaussian in SVM. The number of face data used in this study were 196 for training data and 84 for test data. The time needed for the system to classify faces is 0.7167 seconds/image.

Keywords: *Face Recognition, Gabor Wavelet, Support Vector Machine (SVM).*