Abstract

At first the image processing is done to improve the quality of the image, but with the development of the computing world allows people to retrieve information from an image. One form of image processing is the human face detection which is often a very important first step in face recognition systems used for biometric systems as well as for searching and indexing images or videos in which containing a human face.

In this final project, we will doing a face detection which includes two major stages of determining a candidates face using the template matching method with separating skin region and non skin region, after getting a face candidate we will doing verification stage for face candidates by using Gabor feature extraction where the verification carried out by detecting facial landmark points of the eye. Based on test results, it's obtained by template matching accuracy of 68.57% for 70 test images and 89.08% for the 174 object faces, in the other hand Gabor feature extraction method obtained the accuration of verification non face area by 100% for 17 non face image which considered as a face by template matching (category B), the accuracy of 53.85% for 39 object faces which is detected as a face, and an accuracy 100% for 27 non face objects which is detected as a face by template matching.

Keyword: image , face detection, template matching, gabor feature extraction.