ABSTRACT

Image processing is one of image translation process into an information. Image processing intended to make an system can "see" the information contained in there. One is the development of image processing in face detection system (face recognition). The problems that often appear on the face detection is the problem of nonlinearity picture. To fix the system, kernel is used, as a method of Kernel Direct Discriminant Analysis (KDDA). Through this method the error of face a nonlinear detection is expected to be minimized.

At the momment of building this final task of the kernel poninomial KDDA algorithm is used. Face recognition system that is made to be efficient that can perform a quick detection (realtime). This final task using Visual Basic as a media system builder while Microsoft Access database, is used as a database of user information. Preposesing processes such as image cropping, grayscale, and storage in jpg format do embeded. So it does not require prior image processing. KDDA algorithm results in the strengthening of the discriminant and the reduction in the size of the dimensions used to separate and characterize each class. These results will be used as a grading test images. The entire system is built so that face recognition produces maximum accuracy and realtime in operation.

From the test results obtained that the optimal error limit is 13% of the variance matrix class with minimum distance, while the average time of processing the test image in the image are identified for 0.641 seconds and face recognition accuracy for the training images is equal to 80% linear with distance and lighting the same with training image While for training test with non-linear image produced an accuracy of 82.2% with same distance and lighting conditioning the image

Key word : face recognition, kernel direct discriminant analysis methode (KDDA), Visual Basic, implementation, realtime