

## ABSTRACT

Face recognition is a biometric technique that keeps growing nowadays. One of the scope of human face recognition is multiple face recognition which an image is made up of many faces. Face recognition can match and compare the image input that has been saved automatically in database. In mixed face recognition, it is quite difficult to match the input image in database and to distinguish multi faces in one image is difficult in face recognition system. In addition, there are also some problems in face recognition system such as face expression, illumination or lighting, and distance. Multiple face recognition is a solution for this problem.

This final project discusses multiple face recognition system, face recognition system which an image has many faces in it. CFLDA is one feature extraction improvement method of LDA with attached fuzzy algorithm into LDA space. Feature classification that is used is K-NN.

This final project has done a research of how a system can recognize many faces in an image. This study has achieved 99,115% level accurate with 2,885% of error rate

**Keyword : multiple face recognition, CFLDA, K-nearest neighbour, fuzzy algorithm**