Abstract

This paper describes the recognition of multimodal biometric systems based on the face and palmprint features. The common feature extraction technique between the palmprint and face recognition system is the Local Binary Pattern. In the palmprint recognition, the region of palm was extracted from the entire hand. The Histogram of Oriented Gradient (HOG) and Local Binary Pattern (LBP) were used to extract the features of palm. The Zernike moments and LBP were used to extract the features of face. The features of palm and face were integrated as feature vector. To evaluated the accuracy of the system, different classifications were applied such as SVM, KNN, Linear Discriminant. This experiment was performed on the ORL and CASIA database. The proposed system was tested on the said database and found to be satisfactory.

References

1. Anil K. Jain, Arun A. Ross, Karthik Nandakumar, "Introduction to Biometrics", Springer
Extraction of Face and Palmprint Features based on LBP, HOG and Zernike Moments

1. Sciences + Business Media, LLC, 233 Spring Street, New York,NY 10013, USA , July 2011
2. Ashish Mishra, “Multimodal biometrics it is : need for future system”, International journal of computer applications(0975-8887) volume 3-No.4,June 2010
5. S Noushath, M. Imran, A. Rao and H. Kumar G "multimodal biometric fusion of face and palmprint at various levels", IEEE
13. Olivetti Research Laboratory (ORL) Face Database is available on the following link: http://www.cl.cam.ac.uk/research/dtg/attarchive/facedatabase.html
14. CASIA Palmprint Database is available on this link: http://www.biometrics.idealtest.org

Index Terms
Computer Science Pattern Recognition

Keywords
LBP, HOG, Zernike Moments, ROI, SVM, KNN.