Abstract

Heterogeneous (cross spectral) face matching is very important in many of the security applications, especially at night time face recognition where query images are near infrared face images and gallery images are generally visible light images. At night time environment near infrared cameras are used for imaging and images can be captured at various distances as object is not at fix position. As distance increases the quality of face image get degrade and it becomes difficult to match the query near infrared face image with the gallery images. The aim of proposed work is to implement an efficient face matching technique that resolves the problem of cross distance together with cross spectral face matching. Learning based image restoration is an approach to deal with this problem. In this the face images at long distances are restored first and then restored face images are matched with VIS (database) images. The proposed work improves the face matching performance by normalizing near infrared and visible light face
images using Difference of Gaussian filter and extracted HOG features for heterogeneous face matching.

Refer
ences

- Sandhya R. Wadhavane and Prof. Dr. S. M. Kamalapur, "Heterogeneous Face Matching: NIR images to VIS images", cPGCON 2016, Fifth Post Graduate Conference of Computer Engineering, March 2016
- D. Kang, et al., Night time face recognition at a large standoff: cross-distance and cross-spectral matching, Pattern Recognition(2014), http://dx. doi. org/10. 1016/j. patcog. 2014. 06. 004
- Zhifeng Li, Senior Member, IEEE, Dihong Gong, Yu Qiao, Senior Member, IEEE, and zacheng Tao, Senior Member,"Common Feature Discriminant Analysis for Matching Infrared Face Images to Optical Face Images," June 2014
- Jie Ch1en, Dong Yi, Jimei Yang, Guoying Zhao, S. Z. Li, and M. Pietikainen. 2009. "Learning mappings for face synthesis from near infrared to visual light images". In CVPR . 156–163.
- S. Liao, D. Yi, Z. Lei, R. Qin, and S. Li."Heterogeneous face recognition from local structures of normalized appearance", In Proc. 3rd ICB, 2009
Heterogeneous Face Matching: NIR Images to VIS Images


Index Terms

Computer Science  Image Processing

Keywords

Acquisition System  Cross Spectral  Cross Distance  Heterogeneous Face  Image Restoration

Near Infrared (nir) Face Image

Visible Light (vis) Face Image