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.
images using Difference of Gaussian filter and extracted HOG features for heterogeneous face matching.

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**Index Terms**

Computer Science  
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**Keywords**

Acquisition System  
Cross Spectral  
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Heterogeneous Face  
Image Restoration

Near Infrared (nir) Face Image

Visible Light (vis) Face Image