Abstract

Image Enhancement is one of the most important and difficult techniques, also the first stage in the pre-processing of images which have to be subjected to image recognition algorithms. The goal of image enhancement is to improve the quality of images. Palmprint image quality is an important factor in the performance of hyperspectral palmprint recognition system. To the best of knowledge there is no evidence of work specifically directed towards image enhancement techniques on hyperspectral palmprint images. In this paper different thirteen types of image enhancement techniques are compared based on image quality measure (subjective and objective), subjective image quality measure based on histogram and objective quality measure is based on mean square error (MSE), Peak signal to noise ratio (PSNR), Normalized cross correlation (NK), Average difference (AD), Structural content (SC), Maximum difference (MD), Normalized absolute error (NAE). Such a comparison would be useful in determining the best suited image enhancement method for hyperspectral palmprint. Median filter gives good performance as compare to other image enhancement techniques. The performance of different thirteen image enhancement techniques are tested on PolyU hyperspectral palmprint database. The comparative results are tabled.
REFERENCES


INDEX TERMS

Computer Science
Image Processing
Keywords

Image Enhancement  image quality measure  Spatial and frequency Domain
Image restoration