

FACE RECOGNITION USING CURVELET TRANSFORM

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Abstract

In this approach facial features of the face images have been extracted by applying curvelet transform. These curvelet coefficients are then passed through a threshold. Face images are then partially reconstructed by applying inverse curvelet transform to the coefficients after thresholding. These partially reconstructed images form the feature vector. We then transform this feature vector into the basis space of PCA and ICA for dimensionality reduction. The results show much improvement in accuracy for both curvelet-ICA and curvelet-PCA; than accuracy using ICA and PCA alone. Experiments were carried out on ORL database.

Keywords: Wavelet transform, Discrete Curvelet transform, PCA, ICA, curvelet-ICA and curvelet-PCA