



RESEARCH ARTICLE

An Efficient Back Propagation Neural Network Based Face Recognition System Using Haar Wavelet Transform and PCA

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Abstract— With fast evolving technology, it is necessary to design an efficient security system which can detect unauthorized access on any system. The need of the time is to implement an extremely secure, economic and perfect system for face recognition that can protect our system from unauthorized access. So, in this paper, a robust face recognition system approach is proposed for image decomposition using Haar Wavelet Transform, feature extraction of eigen values using Principal component Analysis (PCA) and then classification using Back Propagation Neural Network (BPNN). Also comparison with the traditional face recognition algorithms is done to show the effectiveness of the proposed algorithm.

Key Terms: - Principal Component Analysis (PCA); Back Propagation Neural Network (BPNN); Haar wavelet transform; Face recognition; Eigen faces

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