Abstract

In the field of machine recognition and computer vision, face recognition using optimized Radial Basis Function (RBF) Network is a very efficient solution for the researchers working in this field. In face recognition, the main challenge is to obtain high recognition efficiency. In the present work, principal component method is used for feature extraction and feature reduction. The eigenvalues obtained are passed to the Radial Basis Function Network for classification. In this study, particle swarm optimization technique is used to optimize the centre and the width of the Radial Basis Function Network. The work is tested on three datasets: AT & T, Yale and CMU PIE. The results obtained show that the efficiency of the investigated work, in terms of recognition rate and the training time is better than existing neural Network based in Back Propagation.

References

Neural Network 3rd Int. Conf. On Human and Computer, Aizu, Japan, 137-142, Sep. 6-9.


**Index Terms**

Computer Science

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**Keywords**
PCA, Radial Basis Function, Particle Swarm Optimization, face recognition