Abstract

In this paper a method to face recognition in digital images based on statistical features and fuzzy neural networks will be introduced. In order to increase system performance, and analysis of the basic components, Zernike moments used as features have been used and various combinations of these features have been introduced. Work is based on the use of fuzzy neural network of FRBF with a teaching method based on fuzzy training in face recognition with high accuracy. In FHLA algorithm used in learning, in addition to determining weights between hidden layer and output layer parameters, including center RBF neurons and the width shall be determined during the training process. In this way of education, initial values of parameters using fuzzy logic and troubleshooting methods and fuzzy clustering hidden layer neurons are obtained by number of FCM techniques. To determine the final values of communication parameters and weights, the gradient method and the LLS is used as optimization methods. Test results show that this technique has very good accuracy in identifying faces on the database composed of 1000.
FRBF Neural Network base for Face Recognition using Zernike Moments and PCA

References


Index Terms

Computer Science  Image Processing
Keywords

Component Analysis, Neural Network RBF, Face Recognition, Zernike Moments.