عنوان مقاله:

Giving a New Method for Face Recognition Using Neural Networks

محل انتشار:

فصلنامه بین المللی مهندسی مکاترونیک ، برق و کامپیوتر, دوره 4, شماره 11 (سال: 1393)

تعداد صفحات اصل مقاله: 18

نویسندگان:

Seyyed Mohammad Reza Hashemi - *Young Researchers and Elite Club, Qazvin Branch, Islamic Azad University, Qazvin, Iran*

Mohammad Kalantari - *Faculty of Computer and Information Technology Engineering, Qazvin Branch,Islamic Azad University , Qazvin , Iran*

Mohsen Zangian - *Shahroud, Science and Research, Electrical and Computer Collegeaas*

خلاصه مقاله:

The face recognition system follows generally methods and systems that can recognize the face with acceptable accuracy and speed like a human and or even better than the human. The face recognition system can be categorized into different levels, sensors, features, guess and decision; each of them has the different structures. One of the most important levels is the combination of guess and conjecture. Experiments indicate that the mentioned methods are more efficient in the layer (level) of guess and conjecture. In this paper, it is tried to show the face recognition should be considered as one of the most important biometrics features using the benefits of combined methods. The proposed method is a combined method with a parallel structure of the layer (level) of guess and conjecture and the extracted comparative benefits of three algorithms named LDA, PCA and Gabor operator that are known for the combinations. Faced Forward Back Propagation method has been used to combine the advantages of a neural network. The results of tests on Feret, AR and Yale data set show that using proposed methods can be useful to reduce the factors of external elements such as brightness and to change the reasons of the position and movement of the various algorithms and improve results. Also we can recognize the features of the face using different neural networks. The improved results in different algorithms have been shown in the mentioned data set in the following table and it is remarkable that the proposed combined algorithm of the paper, i.e. PCA + LDA + Gabor has the better results than the compared algorithm.

کلمات کلیدی:

face recognition, levels of hypotheses, neural networks, gabor, LDA, and PCA