CWT and Fisherface for Human Face Recognition

Abstract

Recognition of face is a good authentication and verification tool of people, has a great interest in our live. One of its important algorithms is eigenface which has been used widely; it has limitations such as poor discriminatory power, to solve this problem fisherface is used which attempt the distance between is maximum classes and the distance inside class is minimum, but it suitable for small data. Complex Wavelet Transform (CWT) is used to get import information of image and input it to fisherface. It uses dual-tree wavelet filters to obtain the imaginary and real to obtain shift invariance and different direction. This combination improved the accuracy of face recognition. Fisherface makes the best representation of the data entry while CWT is decomposing the training image with various rotated image recognition. Finally, the performance is compared to the proposed method with other methods, and gives better identification accuracy.
15. http://pics.psych.stir.ac.uk/2D_face_sets.html

Index Terms

Computer Science Pattern Recognition

Keywords

Eigenface, Fisherface, complex wavelet.