Abstract

In the last decade, facial expression recognition has attracted more and more interest of researchers in the computer vision community. Facial expressions are a form of verbal communication, used to exchange social and emotional information in human-human-interaction. By detecting the expression of a human and reacting proactively, many applications could benefit from automatic facial expression recognition systems, e.g. human-computer-interfaces or security systems. Further applications for expression recognition lie in driver safety and social sciences. In order to use facial expression recognition systems in real-world situations, it is essential to recognize expressions not only from front face images, but also from images containing faces with pose variations.

In this work a new feature extraction technique has introduced from still images using PCA on curvelet domain which has been evaluated on a well-known databases. Curvelet Transform has better directional and edge representation abilities, inspired by these attractive attributes of curvelets, we decomposed images into its curvelet subbands and apply PCA (Principal
Component Analysis) on the selected subbands in order to create a representative feature set.

References


Index Terms

Computer Science

Pattern Recognition

Keywords

Facial Expression, Curvelet Transform, MATLAB