Abstract

Human-computer intelligent interaction (HCII) is an emerging field of science. The interaction between human beings and computers will be more natural if computers are able to perceive and respond to human non-verbal communication such as emotions. The most expressive way humans display emotions is through facial expressions. In this paper a method for emotion recognition from facial images has been proposed. The system consists of three steps. At the very outset some pre-processing has been applied on the input image and face features have been extracted from face images before applying the emotion recognition technique. A comparison between two edge detection techniques—Sobel edge detection and Fuzzy logic based edge detection has been shown. Observation of various emotions characterizes that eye exhibits ellipses of different parameters for different types of emotions. Genetic Algorithm has
been applied to optimize the ellipse characteristics of the eye feature. Finally a classification has been carried out by using Back-propagation Neural Network (BPNN). The proposed approaches are tested on a number of face images.

References

- Fuzzy Logic Based Image Edge Detection Algorithm in MATLAB by Er Kiranpreet Kaur, Er Vikram Mutenja, Er Inderjeet Singh Gill. ©2010 International Journal of Computer Applications (0975 - 8887) Volume 1 – No. 22

Index Terms

Computer Science  
Pattern Recognition

Keywords
A framework for the Recognition of Human Emotion using Soft Computing models

- Fuzzy Logic based edge detection
- Feature extraction
- Genetic algorithm
- Back-propagation Neural Network