

Personalized Face Emotion Classification Using Optimized Data of Three Features

Abstract:

In this paper, lip and eye features are applied to classify the human emotion through a set of irregular and regular ellipse fitting equations using Genetic algorithm (GA). South East Asian face is considered in this study. All six universally accepted emotions and one neutral are considered for classifications. The method which is fastest in extracting lip features is adopted in this study. Observation of various emotions of the subject lead to an unique characteristic of lips and eye. GA is adopted to optimize irregular ellipse and regular ellipse characteristics of the lip and eye features in each emotion respectively. The GA method approach has achieved reasonably successful classification of emotion. While performing classification, optimized values can mess or overlap with other emotions range. In order to overcome the overlapping problem between the emotions and at the same time to improve the classification, a neural network (NN) approach is implemented. The GA-NN based process exhibits a range of 83% - 90% classification of the emotion from the optimized feature of top lip, bottom lip and eye.