

## **JAPANESE FACE EMOTIONS CLASSIFICATION USING LIP FEATURES**

### **Abstract:**

In this paper, lip features are applied to classify the human emotion using a set of irregular ellipse fitting equations using Genetic algorithm. As Japanese, is considered in this study. All six universally accepted emotions are considered for classifications. Lip is usually considered as one of the features for recognizing the emotion. In this work, three feature extraction methods are proposed and their respective performances are compared for determining the feature of the lips. The method which is fastest in extracting lip features is adopted in this study. Observation of various emotions of the subject lead to unique characteristic of lips. GA is adopted to optimize such irregular ellipse characteristics of the lip features in each emotion. That is, the top portion of lip configuration is a part of one ellipse and the bottom of different ellipse. Two ellipse based fitness equations are proposed for the lip configuration and relevant parameters that define the emotion. This has given reasonably successful emotion classifications for Japanese subject.