ABSTRACT

Facial shape can be used to know lot of things like the form of glasses or to find the appropriate facial makeup. Facial shape can also be used for observation of habits, psychology and health of a person. Therefore the writer wanted to create a system detection and classification of face shape that can help the community and also expected to add features to detect facial shape that aims to increase the accuracy of face detection system.

The selected method is using Learning Vector Quantization as its classification and Flip Scale-Invariant Fourier Transform (F-SIFT) for the feature extraction. The choice of this class classification method is because Learning Vector Quantization (LVQ) can do the learning on a supervised competitive layer. The competitive layer will automatically learn to classify the input vectors. SIFT is selected because it can detect objects that have been rotated, reversed and changed the scale of the image. In this simulation will use the face image and will be taken the edge of the face using the Landmark Facial and Canny edge detection. The last process is compared to the shape of a person's face in a database that has been created before.

After testing the face shape classification system with 45 training images and 45 test images with LVQ parameters and different F-SIFT feature extraction parameters, the average accuracy values for the test images that were rotated, tilted and changed the scale respectively were 48.15%, 41.11% and 85.93%.

Keywords: Face Shape, Learning Vector Quantization, Flip Scale-Invariant Fourier Transform