Facial Expression detection or Emotion Recognition is one of the rising fields of research on intelligent systems. Emotion plays a significant role in non-verbal communication. An efficient face and facial feature detection algorithms are required to detect emotion at that particular moment. The paper presents a new approach to the problem of extracting the facial components from a still facial image which will be used further for Facial Expression detection. Robust extraction of such facial feature locations is a crucial problem which is used in a wide range of applications. Facial features such as lip corners, eye corners and nose tip are critical points in a human face. The paper approach relies on image segmentation based on skin color algorithm and fiducial point detection. First, the face region is extracted from the image by skin-color filter and window growing. Second, eyes and mouth are approximately located by
projection of fiducial point. It is been observed for subjects not wearing glasses, the extraction of eyes could be correctly located in 94% of the images and in over 90% of these images they could be accurately extracted, while for subjects wearing glasses, the success rate is somewhat lower. Also, in certain moods or depending on the facial expression, the detection of lips in case of mouth opening and closing varies which can also be extracted by our method.

References


Index Terms

Computer Science

Applied Sciences

Keywords

Feature extraction  fiducial point  facial expression.