

REAL -TIME EMOTION RECOGNITION THROUGH FACIAL EXPRESSIONS

Abstract:

Emotions are distinct and consistent response to internal or external events that plays a vital role in every human's life. Facial expressions are the most effective way to exhibit emotions and recognizing them, is a biometric feature that carries the emotion of the person. In this proposed work, we've come across emotion recognition by analyzing the facial expressions. The common human emotions are happy, sad, fear, anger, surprise and disgust. These inputs are accustomed to collect the current mood or emotional condition by analyzing the human's facial expressions. It is a motivation for additional analysis in computer-based emotion recognition system and its impact on social and private competency. The model is trained using a supervised learning algorithm referred to as Support Vector Machines, to acknowledge the various emotions of an individual. Eigenface together with Principal Component Analysis is used and result of it'll turn out to produce appreciable efficiency compared to other algorithms. As our project work is concerned with recognizing the emotions of an individual even in inclined and oriented pictures, thus we tend to use Machine Learning in conjunction with OpenCV techniques to resolve the issues.

Problem statement:

It is aimed at recognizing human motions from static and dynamic images in real time environment.

Scope:

Facial features like transient and landmarks can be detected using RERS software. Recognition and Compression of the facial muscles which produces the adaption's in the appearance and shape of facial landmarks such as eyebrows and jaw lines with respect to the magnitude and direction of motion on the skin surface and in the momentary facial features appearance such as wrinkles. Because of the varying nature of these facial shape and appearance changes so that we can formulate derived representations to benefit the module of automatic facial action. As we input a training dataset image and observe the Euclidean distance. This distance tells us how close the between input image consisting of two vectors in training data set. On the basis of minimum and maximum distance units we can take a decision of whether the face can be considered as known, or an unknown or not a face at all. This is considered as input for dimensionality reduction emotion classification.

Objectives:

The main objectives of this proposed system is to overcome the problems of previous research. The following are some of the services provided by RERS system.

- The ability to capture facial expressions, classify them into six universal emotions, and to recognize emotions in real time.
- To create a self-awareness among individuals and providing support to individuals who are afraid to share their feelings which might lead to a depression and self-discouragement and this may affect their personal, as well as their Social life.

- To establish a service so that people will understand to naturally express their emotions when they are interacting with our system.
- To figure out the conditions in which the emotion recognition application can result into objective or subjective measure improvements.
- To provide guidelines on the basis of emotion classification deployment which can give inputs to software developers to meet the user needs.