Emotions recognition..? Base on expression recognition in Implicit Learning Situation

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Abstract: The objective of this study is to recognize or derive a method to understand students emotions which intern helps us in determining the level of students catching or understanding power, & hence providing a polymorphic approach of delivering the content according to students understanding of the course. This is achieved by creating a emotion recognition model, having three stages: - character recognition, subset’s feature, classifying emotion method is used to obtain input image, then face, eyes, boundaries or structure of that inputted image’s face. Neural network has provided us with 6 types of emotion categories. Database stores student’s reaction at distinct situations. And then this database helps the virtual study courses in providing a dynamic approach of study i.e. we can change the strategies & also able to have an idea of student’s learning status.

Keywords: Virtual-Learning, Expression, Recognition etc.

Introduction
In virtual education field, the virtual way of providing the info to the pupils is achieved very much but in providing the best education to them there should be dynamic or polymorphic approach. Because as we know that a normal human teacher follows the same approach of reading a pupils facial expressions in able to understand what’s going on in his mind & is he able to understand all the stuff of class or not. We have also derived our facial expression recognition approach from this same real life human’s inbuilt approach.
To fulfill this approach first of all we need to have a lot of student’s expression from a series of videos frames to track student’s real time understanding of behavior, time & accuracy should be balanced, to get the best accuracy more video frames should be taken into consideration. But if we keep on going with a large number of frames, then to study they would be quiet difficult, that’s why we try to work with a lesser number of frames, experiments shows us that sometimes efficiency is very high but which intern causes more time utilization. There are other methods which help us to identify facial expression & we can adopt any to fulfill our task. Example if anybody tracks the eyes expression instead of whole face then time would be less but it also causes reduction in the accuracy of our program. Now to obtain the best facial track of a personality we need to have a whole face track of the entity under consideration, that is eyes, eyebrows, eyelash, lips, teeth, chicks and then making a decision of the expression which that entity is showing at that moment & then categorizing it in the database which in future can be used to understand that entities expressions.

Related Work
The objective of feeling recognition is to collect data and analyze feelings of subjects, to make suitable responses possible. Such data may be collected from diverse bodily facial exterior such as face tone, body activities, and other natural bodily signals. However, learners’ emotions are expressed first through facial expressions which can be divided into six kinds of categories: sadness, happiness, surprise, fear, anger and disgust.
Fig 1 lists the emotion recognition process. The facial recognition process consists of three main stages: acquisition, feature extraction, and emotion classification. This paper is organized along the three stages.

Database
The way of storing homogenous type of data in any storage location & then maintaining it is the main part of database, the term database is composed of two words “data” & “base” that is the first part of database is the actual data or information on which we can perform various operation & base here means where everything lies that is the whole data lies on this. That is why we need to maintain this in the best way possible.
Optimization of database is also necessary because this is possible that at the time of student’s expression recognition we were unable to take the actual expression but at later level we get the right meaning of his facial expression, that’s why time to time updating of this database is necessary.
when we categorize all the data of any entity then we get six basic face parts which we take under consideration will judging the mood of student these are :-

1. eye
2. eyebrows
3. eyelash
4. lips
5. teeth
6. Chicks.
And after categorizing all the face parts we judge a mood according to the appearance of that face parts into six basic moods:

1. sad
2. happy
3. surprise
4. fear
5. anger
6. disgust

This is done by comparing the observed expressions with the stored ones.

**Facial expression recognition**

The first & most basic thing is the recognition of face in any image, that is we first take out the face part from the image and then we crop out all the six major face parts & then compare them with the present expressions, this can be understood diagrammatically as follows:

For the above activities, we first of all train the images inputted, & drive

Face features by storing them in a file say face.xml. After this we try to recognize mouth as well as eyes from facial features. Let’s summarize the whole process in the form of an algorithm:
Using feature extraction as data and neural network as classifier, scientifically and accurately defines the emotions.

**Algorithm to detect mouth & eyes [16]**

**Input:** Images samples from database (i) = {aa, ab, ac, ad…n}

**Output:** Mouth & Eyes

1. input samples of images 
   (i) = {aa, ab, ac……n}
2. read & store to frames of separate face part  
   f = {aa, ab, ac………n}
3. now we read out the already stored xml file i.e. face.xml  
   r= face.xml
4. apply switch case for comparing with the already present data in face.xml  
   i.e. returning the matched expression by comparing with the already present six emotions with us
5. We got the emotions of student 

End.

Similarly, we can recognize rest four face part’s emotions.

**Conclusion**

By using the similar way we can recognize all the other six basic face parts of a student & hence generate a final thought about the understanding of the virtual course & act accordingly in providing the best course to that student.

**REFERENCES**


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