**HUMAN EMOTION RECOGNITION IN EDUCATION LEARNING SOFTWARE**

**Abstract:**

Facial expressions and emotions are continuous entities with numerous variations. Emotion detection methods have been in focus of the researchers across various disciples to understand the user involvement, effectiveness and usefulness of the system. One such is the human emotion recognition in Education learning software, which conveys how well a person understands the concepts and their emotions during the assignment of tasks, reaction to different kinds of topic etc., Our focus is on understanding and interpolating the emotional state of the learner during a learning engagement. Evaluating the emotion of a learner can progressively help in enhancing learning experience and update the learning contents. Since machine learning facial emotion recognition systems have no innate understanding of human emotion, and since they rely on our ability to accurately label expressions, it is worth considering our own limitations in this respect, since these will only be magnified in a machine learning system built around them. The approach is to build a CNN model to classify the basic emotions and then identify the states of mind of the learners.

**Dataset Description**

The data consists of 48x48 pixel grayscale images of faces. The faces have been automatically registered so that the face is more or less centred and occupies about the same amount of space in each image.

This dataset was prepared by Pierre-Luc Carrier and Aaron Courville, as part of an ongoing research project. They have graciously provided the workshop organizers with a preliminary version of their dataset to use for this contest

The task is to categorize each face based on the emotion shown in the facial expression into one of seven categories:

0=Angry,

1=Disgust,

2=Fear,

3=Happy,

4=Sad,

5=Surprise,

6=Neutral.

**Dataset Link** - <https://www.kaggle.com/datasets/msambare/fer2013>

The training set consists of 28,709 examples. The test set, consists of another 3,589 examples. The validation set consists of 3685 examples

Image Format - .jpg

Size – 48\*48

**Dataset Link -** <https://aice.uva.nl/research-tools/adfes-biv/adfes-biv.html?cb>

Frame width: 1280

Frame Height: 720

Video Frame Rate: 25 FPS