Lecture Evaluation using Face Recognition

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Abstract – In today's teaching environment feedback of students is taken by traditional methods which is a static process. This paper propose's a system that will evaluate the performance of the lecturer with help of the face recognition of the students. This system recognize's the human faces and the facial expressions of it automatically. Facial expressions of students are clue to our system. The emotions captured will be processed through Open CV technology and Convolution Neural Network(CNN). This system is feasible and will help to improve the efficiency of teaching.

Key Words: **Machine Learning, Face recognition, Multi-feature learning, Convolution Neurel Network, Open CV**

1. INTRODUCTION

In today's world face recognitions techniques are used on wide scale because of its accuracy. It helps to give better results by eliminating the problematic parts of learning process. The proposed system will help to understand the learners inner state by detecting the facial expression. The recent upgrade in technology and boost in use of various user friendly programming language has increased the importance of machine learning and it is becoming a major factor in helping people for making their life easy. Machine learning is helping developers in creating a machine that can think and work as a human. Using facial expressions a machine is able to decode human emotions and create a response that will give best results of the system.

The lecture evaluation system is a software program that can interact with humans to predict the best results of a lecture. Our system will work in two stages, in first stage we will capture face of students and the expressions while second stage process the emotion of face and evaluate the quality of lecture. Face detection supported the analysis of existing purchase knowledge of lectures. The flow of face detection and recognition starts by being able to detect the frontal faces of students with help of an input devise such as webcam. Results of the system will be given in rating format. The purpose of lecture evaluation is to understand the quality of lecture given.

2. LITERATURE SURVEY & RELATED WORK

This system is implemented based on more facial expressions and mood categories can be included to diversify the application of the proposed method. [1]. Author introduced a application which provide various algorithms and techniques have been developed for improving the performance of face recognition but the concept to be implemented here is Deep Learning. It helps in conversion of the frames of the video into images so that the face of the student can be easily recognized for their attendance so that the attendance database can be easily reflected automatically. Explained in [2]. In [3] author has Built a Case Study of Facial Emotion Classification using a desk. In recent years, research has been carried out and face recognition and detection systems have been developed. Some of which are used on social media platforms, banking apps, government offices. Explained in [5]. The experiment shows that the given system is realistic, and is able to enhance the efficiency of teaching assessment. that is explained in [6].

2.1.SUMMARY OF LITERATURE SURVEY

1.	2016	Mood Extraction Using Facial Features to Improve Learning Curves of Students in E-Learning Systems	Abdulkareem Al-Alwani	More facial language and mood categories can be included to vary the application of the proposed method.
2.	2016	Face Recognition Based Attendance System	Nandhini R, Duraimurugan N, S.P.Chokkalingam	various algorithms and techniques have been developed for enhancing the performance of face recognition but

				the idea to be implemented here is Deep Learning. It helps in alteration of the frames of the video into images so that the face of the student can be easily predictable for their attendance so that the attendance database can be easily reflected automatically.					changes in certain parts of the face.
					5.	2018	Faculty of science, engineering and computing	Jireh Robert Jam	In recent years, research has been carried out and face recognition and detection systems have been developed. Some of which are used on social media platforms. e.g. the Metropolitan Police, Facebook etc.
3.	2019	A Case Study of Facial Emotion Classification using a desk	Martin Magdin, L'ubomírBenko and ŠtefanKoprda	The results of the experiment have shown several incompletion of the face analysis system. The system has difficulties. Classifying expressions and cannot detect and identify inner emotions that a person may experience when shown the image. Face analysis systems can only detect emotions that are expressed externally on a face by physiological	6.	2018	Assessment of Students' Comprehension using Multi-Modal Emotion Recognition in E-learning environments	K. PrasadaRao*,	The experiment shows that the given system is realistic, and is able to enhance the efficiency of teaching assessment.

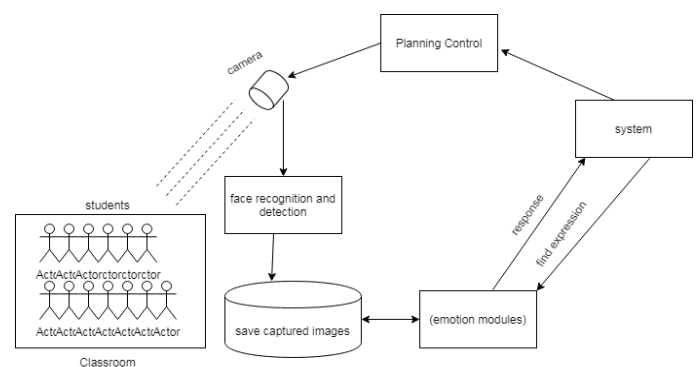## 3. ARCHITECTURE OF LECTURE EVALTUION USING FACE RECOGINITION:

Fig 1:Lecture Evaluation with Face Recognition

The proposed work is gathering image dataset for predicting emotions of face. The image capture symptoms prediction is

composed main component including the digital camera tor capturing the image of students face representations. In order to recognize and predict the accurate image capture symptoms on improvement of lecture evaluation.
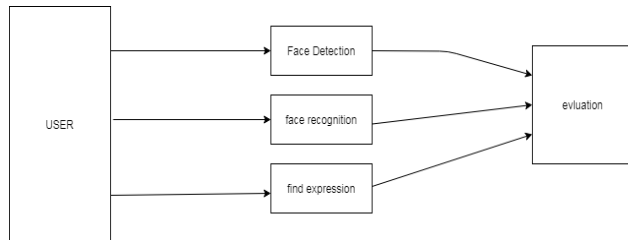

Fig 2: Seq to seq

As the name suggests, seq2seq takes as input a image of students and generates an output as quailty of lecture. It does so by use of OpenCV and Convolution Neural Network(CNN). Open CV is a library known as computer vision technology that helps to locate face human faces through digital images Convolutional Neural Network (CNN) is multi-layer network used to perform a specific task. In this system we will use CNN to process the images captured and match the emotion to the respected dataset. With combination of Open CV and CNN this will provide good efficiency for face recognition system.

4. NEED OF LECTURE EVALUATION SYSTEM.

In case of the present system the lectures are going regularly but main reason behind this 10-20% students get 80% knowledge, 20-60% students get 60% knowledge and remaining students do not get their concepts. To overcome this situation and provide honest feedback of lecturer there is need of lecture evaluation using face recognition.

5. ADVANTAGES

1. Give better efficiency for feedback system.
2. Teacher can improve their learning strategy with every feedback.
3. It helps to monitor students.
4. It also helps to keep track of attendance.

6. CONCLUSIONS

In this paper, we did survey on importance of machine learning for face recognition for developing a software program for evaluating performance of lecturer by detecting the emotions of students using cameras. This system provides continuous observation and recording on students for better results. We recommend the use of lecture evaluation system for purpose where it will provide

assistance institutes to take feedback in efficient manner. The software would suggest the performance of lecturer.

7. REFERENCES

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