FACIAL RECOGNITION ONLINEEXAMINATION ALONG MACHINE LEARNING

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ABSTRACT:

The COVID19 situation has made online examination as the primary part in education throughout the world. There are different parameters of remote proctoring such as audio proctoring, video proctoring, image proctoring, monitoring screen of the end-user attempting the online exam. With the help of all these mechanisms, can securely conduct and Online Exam, that too under a controlled and cheat-free environment. In this Project, the tool used is Python to test out the scikit-learn library since it is the industry standard for scientific tasks like regression. The Jupyter Notebook allows most anyone to run this code by own, we need to have scikit-learn, NumPy, matplotlib, Seaborn, Itertools, and imblearn installed and the dataset are imported on machine for virtual environment.The objective used in the process is. Facial recognization – when we appears to exam hall, they have been scanned all the student's face id. So they can easily identify and recognise the students facial fraudulent works.

KEY WORDS: Face Recognization, Machine Learning, Logistics Regression.

I. INTRODUCTION

Logistic regression is another technique borrowed by machine learning from the field of statistics. It is the go-to method for binary classification problems. Techniques used to learn the coefficients of a logistic regression model from data. A facial recognization system is a technology capable of identifying or verifying a person from a digital image or a video frame from a video source. There are multiple methods in which facial recognition systems work, but in general, they work by comparing selected facial features from given image with faces within a database. Face recognization is one of the researches in area pattern recognition & computer vision due to its numerous practical applications in the area of biometrics, Information security, access control, law enforcement, smart cards and surveillance system. The first large scale application of face recognization was carried out in Florida.

II. LITERATURE REVIEW

For the past few years, e-learning has become popular across countries because of its flexibility, availability and user friendliness. This combination forms the inputs to an intelligent rule based inference system which has the capability to decide whether any malpractices have happened. Examinee's face is detected and is used to extract feature points thereby estimating a head pose. Our system has been tested in an e-learning scenario and we were able to make exam monitoring easy [1].

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Today, Online Examination System is considered a fast developing examination method because of its accuracy and speed. It is also needed less manpower to handle the examination. Almost all organizations today, are managing their exams by online examination system, since it reduces student's time in examinations. Organizations can also easily monitor the progress of the student that they give through an examination [7].

Compared with the traditional offline learning analysis, because online learning behavior analysis can obtain various recorded data of learners' online learning, instead of obtaining subjectively strong data through questionnaires, it is more objective. The learning behavior is a series of actions that learners produce during the learning process, including reading books, answering questions, watching videos, viewing courseware, browsing forums, uploading resources, accessing learning platforms, discussing and communicating with others, and so on [5].

Exam Conduction Module If the exam is public then candidate can simply open the exam by the link but if it is private then the candidate need pass key to open exam. Now before opening the question paper firstly instruction page will be displayed with an additional field of Email id using which the candidate gives that particular exam. Without valid email id one cannot open the exam. After this the candidate need to provide the access for the webcam or mobile camera. After getting the access the candidate need to upload photo Identity card [6].

III. METHODOLOGY

Logistic regression is a classification algorithm used to assign observations to a discrete set of classes. Some of the examples of classification problems like Online transactions Fraud or not Fraud. Logistic regression transforms its output using the logistic sigmoid function to return a probability value.

The types of logistic regression are,

I. Binary.

II. Multi-linear functions fails Class.

LOGISTICS REGRESSION:

Logistics Regression is a Machine Learning algorithm which is used for the classification problems; it is a predictive analysis algorithm and based on the concept of probability.

Logistics regression analysis is used to examine the association of (categorical or continuous) independent variable(s) with one dichotomous dependent variable. This is in contrast to linear regression analysis in which the dependent variable is a continuous variable. Machine Learning concepts to upskill and build a successful career in the ML industry.

Regression algorithms in Machine Learning are an important concept with a lot of use cases. The future values are predicted with the help of regression algorithms in Machine Learning.

IV. RESULTS

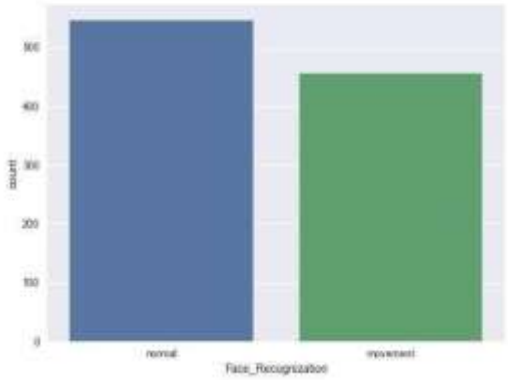
Identifying or verifying the identity of the student by using the process of facial recognization to avoid fraudulent activity.

Plotting of face recoginaztion

```
In [13]: import seaborn as sns
         print(sns.countplot(data['Face_Recognization']))

         plt.show()

Axes(0.125,0.125;0.775x0.755)
```



AlgorithmusedforPredication

The training data and testing data for the prediction values in my finding the predicted value for x is same for both testing and training data. The train_ Y, train_ Y1, train_ Z predicted values are been changed. We have used three variables for these Y,Y1, Z (i.e.) Face Recognization, Eye Detection, Subject. Y is Face Recognization. Y1 is Eye detection. Z is Subject.

The Predication of Face Recognization

The comparison between the predicted value and the face Recognization. This the command is passed only to display the value of the test Y (i.e.) the lip movement along with it's predicted value has alone been displayed. By using the command **(pd.DataFrame({'predicted_value':predicted_value, 'Face_Recognization:test_Y}).**

The result of student malpractice

```
In [54]: z = data[['Student_ID','Face_Recognization','malpractice']]

In [55]: z

Out[55]:
```

	Student_ID	Face_Recognization	malpractice
0	2019MBA01	normal	1
1	2019MBA02	movement	2
2	2019MBA03	normal	2
3	2019MBA04	movement	2
4	2019MBA05	normal	2
5	2019MBA06	movement	2
6	2019MBA07	normal	2
7	2019MBA08	movement	1
8	2019MBA09	normal	1
9	2019MBA10	movement	1
10	2019MBA11	normal	1
11	2019MBA12	movement	1
12	2019MBA13	normal	1
13	2019MBA14	movement	1
14	2019MBA15	normal	1
15	2019MBA16	movement	1

- The Final found of the project shows no. of students involved in both malpractice and nonmalpractices. According to the objective, the result shows Face Recognization of the students malpractice throughout on going online examination.
- This data help us to know the students who involved in Face Recognization and also in the malpractice.

V. CONCLUSION

The research process that has been carried out, it can be concluded that the existence of this application exam is carried out with an online system that aims to gain flexibility of time and space in its implementation and clarification of face recognization methods that aim to avoid more defects like eye retina, lip movement using logistics regression algorithms and more with a higher degree of accuracy.

VI. FURTHER WORK

And apart from our lives on social media, facial recognization can also offer protection from and prevention of other threats. From Behaviour analysis of using facial recognization along with Machine learning is smart securityto uses in online examination, facial recognization software might helpus from fraudulent activities during Online examinationand creating a safer, healthier future.

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