ANALYSIS ON ONLINE EXAMINATION USING MACHINE LEARING ALGORITHM

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ABSTRACT:

Logistic Regression is a predictive analysis. Logistic Regression analysis is used to examine the association of independent variable with one dichotomous dependent variable. This paper aims at analysing the behaviour of the student while they are writing examinations through online. Corona virus has made our world an unsafe place but however one's knowledge can't be locked in a single room. With the help of technologies, there is an opportunity to maintain the student educational safe. With the help of this paper we can easily categorize the students who did malpractice and not. During the exam, student may have tried to cheat by going to another window to search for answers on search engines. Here, active windows of the student are detected and the result is predicted based on the number of times student has gone to another window. There are many factors that is taken into consideration hence for the examiner they can visualize each and every aspect in decision making and the examiner can easily concentrate in the exam and on the students without any difficulties. When a student write exam through online there is a high probability that the student malpractice. Online way is not as good as traditional way but it also has its advantages.

Key words: logistic regression, online examination.

1. INTRODUCTION:

Machine learning algorithm called logistic regression is employed to predict the probability of the scholar to see whether the scholar is malpractice or not. Technology has got us covered, Online Exam is that the most essential remedy for this. Cheating in examinations are some things that's inevitable. The software for conducting online examinations is meant in such how that they're secure and reliable to stop any sort of malpractices from happening . For that we used a tool "Jupyter Notebook". Here, python is employed to analyse the active windows of the scholar using online dataset and is employed to predict whether the scholar is malpractice or not. This project is employed to see the scholar whether he/she is using another windows like search engines to look the answers and analysis the prediction. thanks to the COVID-19 pandemic, the entire globe is following some serious downfall in terms of economy, even the day-to-day activities are being restricted thanks to enforcements like lockdown. Even the tutorial institutions are closed. the normal examination process where students are requested to collect at the examination centre to write down the exam isn't possible within the context of covid-19 outbreak. Today, Online Examination System is taken under consideration a fast developing examination method thanks to its accuracy and speed. it's also needed less manpower to handle the examination. Most of the institutions 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 scholar that they supply through an examination. the power to predict a student's performance could be useful during an excellent number of varied ways associated with university-level distance learning. Students' key demographic characteristics and their marks on a couple of written assignments can constitute the training set for a supervised machine learning algorithm [4]. Today, Online Examination System is taken under consideration a fast developing examination method thanks to its accuracy and speed. it's also needed less manpower to handle the examination.

II. RELATED WORKS

Technical security is applied to computers, networks, data sources, software, and physical space. Technical controls of online exam proctoring are often classified as static and dynamic. Dynamic controls are associated with the processes and alter significantly throughout the examination, e.g., capturing live images, Logging of detailed data for a spread of activities [2].

Machine learning is defined as applying a computer to Imitate human learning by employing a learning algorithm of machine learning to predict the result, or to continue the choice . the pc can acknowledge the particular situation so as to make a decision effectively. Prediction of the result are going to be better consistent with the new data [1]

Compared with the normal learning, online learning is not as good as normal way of learning. the training behaviour may be a series of actions that learners produce during the training process, including reading books, answering questions, watching videos, viewing courseware, discussing and communicating with others, then on [7].

Online learning has become popular during the past years due to its flexibility, availability and user friendliness. this mix forms the inputs to an intelligent rule based inference system which has the potential to make a decision whether any malpractices have happened. Examinee's face is detected and is employed to extract feature points thereby estimating a head pose. [5].

Cheating in online examination is an academic problem similarly because it is in conventional examination. This study strives to explore and verify possibilities of Detecting specific sorts of cheating supported behavioral measures of computer interaction taken during a web examination. Detecting cheating is seen as how to Preventing it (lowering its extent)[6].

III.METHODOLOGY:

The most used algorithms are

- Logistic regression
- Linear regression
- Polynomial regression
- Naïve bayes

Among those algorithms, logistic regression is quick to coach and really fast at classifying unknown records. It gives good accuracy for several simple records. This regression is definitely extended to multiple classes and may interpret model coefficients as indicators of feature importance. By using the logistic regression algorithm, predictions are made upon the scholars who have cheated during the examination.

It is really a way for classification. Regression comes from incontrovertible fact that we fit a linear model to the feature space. It involves a more probabilistic view of classification. It includes training and testing the model, usually done by numerical approximation of maximum likelihood. Apply the coding to perform regression and obtain accuracy score.

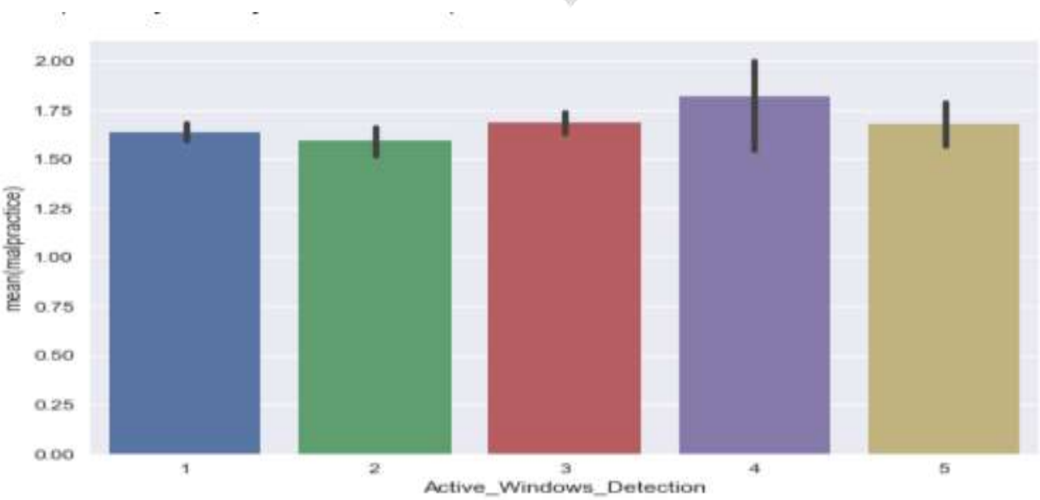
Logistic regression means a binary logistic regression having binary target variables, but there are often two more categories of target variables which will be predicted by it. This regression are often divided into following types:

- Binary or Binomial
- Multinomial
- Ordinal

The idea behind the logistic regression is simple , rather than using y directly because the outcome variable, we use a function of it, which is named logit. The logit, it seems , are often modelled as a linear function of the predictors. Once the logit has been predicted; it are often mapped back to probability.

IV. RESULT

Figure 1:-plotting of Malpractice and Active Windows Detection using Bar plot



The above figure indicates the bar plot between malpractice and Active windows detection, malpractice range up to 2, active windows range from 1 to 5. X axis shows active windows detection, it explains that the number of times students changed their window and the number of times they tried to attempt malpractice.

Figure 2:-Predicted Accuracy score

	malpractice	subject
261	2	Accountancy
367	2	SBSS
186	2	Marketing Structure
10	2	Marketing Structure
410	2	FMI
168	2	Marketing Structure
504	2	DBMS
938	2	Tamil
660	2	DBMS
103	2	DBMS
295	2	EVS
76	2	DBMS
425	2	MONGO DB
917	2	Hadoop
837	2	French

From the above figure, it is understood that the subject students attended and the count of active windows detected while they were writing is analysed through this algorithm. The accuracy score (0.1733) which is calculated to 17% shows the percentage of malpractice. Out of 100% of students 17% of them tried to cheat on their exam by switching to another windows.

Figure 3:-Displaying the Result Active_Windows_Detection.

	Student_ID	Active_Windows_Detection	Subject	malpractice
1	2019MBA02	1	DBMS	2
2	2019MBA03	3	DBMS	2
3	2019MBA04	1	DBMS	2
4	2019MBA05	3	DBMS	2
5	2019MBA06	1	DBMS	2
6	2019MBA07	1	DBMS	2
16	2019MBA17	2	DBMS	2
18	2019MBA19	2	DBMS	2
20	2019MBA21	1	Marketing Structure	2
22	2019MBA23	1	Marketing Structure	2
24	2019MBA25	1	DBMS	2
26	2019MBA27	2	Marketing Structure	2
28	2019MBA29	1	Marketing Structure	2
30	2019MBA31	3	DBMS	2
32	2019MBA33	3	DBMS	2
34	2019MBA35	3	Marketing Structure	2

From the above figure, it is displayed that the ID of students who are all malpracticed by detecting their active windows along with the subject name and the number of times they tried to malpractice.

V. CONCLUSION

This paper mainly depends on the data to give an accurate result. It is mostly based upon the behaviour of the students while writing the exam. As a result majority of the students try to cheat their exams, because online examination is not considered as serious as traditional way of examination. So, the behaviour analysis will motivate the students to study hard even when they stays in home 24 *7 and brings fear to students not to cheat on their exams.

VI.FURTHERWORK

This paper can further be extended by developing online examination software along with artificial intelligence which is in advanced level and also helps teachers to save time and energy on correcting papers while AI takes care of it.

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