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PERFORMANCE ANALYSIS ON STUDENT FEEDBACK USING MACHINE LEARNING ALGORITHMS

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ABSTRACT

It investigates opinion mining by means of supervised learning techniques to search out the emotion of the student input bolstered characterized choices of instructing and learning. The examination led includes the apparatus of a blend of AI and common language preparing systems on understudy input data accumulated from module investigation overview consequences of VR Siddhartha Engineering College, Vijayawada. Additionally, to offer a grade by grade clarification of the technique of accomplishment of opinion mining on or after scholar remarks using the open source tool Python, the work additionally offers a comparative overall performance take a look remarks supported, extracted alternatives like examination, teaching and so on. The consequences are as compared to be trying to find out higher overall performance with relevance several evaluation standards designed for the various techniques.

1.INTRODUCTION

Massive Open Online Courses (MOOCs) is one of the most widespread e-learning platforms. The MOOCs present the course using digital tool materials in various forms such as visual, audio, video and plain text. Most students prefer using video lectures to understand the contents of lessons over thoroughly reading plain text documents. The interactive video in the MOOCs could reduce students' stress, help

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them to feel relaxed and learn quickly [1] [2].

MOOCs can be classified into two distinct types mainly, connectivist Massive Open Online Courses (cMOOCs) and extended Massive Open Online Courses (xMOOCs).The xMOOCs are learning paradigm based on the principles of cognitive behaviorist theory[4]. The structure of the courses is similar to the traditional course where the syllabus consists of a set of video lectures and a set of multiple choice quizzes in addition to the final exam. The video lectures featuring the course instructor reviewing the content of the previous online lesson are released weekly. The participants can watch and pause the video at their own pace. Moreover, the students can socially interact with other participants and the instructor through posting in discussion forums. The instructors usually post questions, provide task solutions and reply to student questions via these discussion forums; as a consequence the discussion forums play a vital role in enhancing the course quality and make online sessions collaborative and engaging [3] [5].

The cMOOCs are a new learning model based on connectivist learning theory [3][4]. With the connectivism approach, the instructor would not provide the actual learning material; the students get the course syllabus by asking the questions and sharing this information with other participants. References [3][4][5] posit the learning strategy of cMOOCs focused on a collaborative approach in which learning material combined remix, repurposed and provided, forwarded to

other students.

It is impossible to involve expertise to assess the students' knowledge whereas in xMOOCs, university lecturers can evaluate the students' knowledge through the use of computer-marked assessment feedback. In particular, the computer gives immediate feedback to the student when he completes the online assessment. The learner, upon successful completion, will be awarded their certification in xMOOCs.The cMOOCs do not include a formal assessment. Hence, universities are not considered cMOOCs as an official course

[5][6].

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With rapid advancements in technology, artificial intelligence has recently become an effective approach in the evaluation and testing of student performance in online courses. Many researchers applied machine learning to predict student performance in [7], however few works have been done to examine the trajectories performance [8]. As a result, educators could not monitor the real-time students learning curve. Two sets of experiments are conducted in this work. In the first set of experiments, regression analysis is implemented for estimation of students' assessment scores. The student past and current activities in addition to past performance are employed to predict student outcome. In the second set of experiments, supervised machine learning method has been utilized to predict long-term student performance. Three types of candidate predictors have been considered firstly behavioral features, followed by temporal and demographic features. The proposed models offer new insight into determining the most critical learning activity and assist the educators in keeping tracking of timely student performance. To the best of our knowledge, student performance has been evaluated in online course using only two targets: "success" and "fail". Our model predicts the performance with three-class labels "success", "fail" and "withdrew".

2. EXISTING SYSTEM

The paper spotlight on victimization Opinion Mining method for classifying the student's comments acquired during module evaluation survey. The mined and prepossessed datasets have been based to numerous supervised evaluations taking out rule like aid Vector Naïve Bayes (NB), Nearest Neighbor (KNN) and Neural Networks (NN) enforced [1].

It is visible currently that there is a rise of expertise available, the alleged statistics deluge, controlled by accomplice inflated amount of electronic motion accomplished, and additionally the revolutionary pervasive attain of IT altogether gadgets. the number one of those developments is that the supposed open statistics association, distinguished by the manner that the complete method throughout European and also the united states, governments area unit more and more e-book their information repositories for humans to admittance and use it any other pattern issues the inconceivable amount of knowledge is formed handy by electorate

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through participatory sensing": commonplace play a practical position in booklet commentary and grumbling online, and increasingly more make use of novelty to report further in sequence.[2]

The paper projected a web feedback system that is concerning automating the method of recording student's feedback. The projected system collects the feedback submitted by students and so classifies them as positive feedback or negative feedback victimization SVM classifier. Then, it generates a performance outline of a coach for the themes he or she schooled there in academic term employing a delimited account rule. In my view, the projected system may be helpful for the educational establishments and may additionally facilitate academics to know their teaching performance in an exceedingly summarized manner. This projected a web feedback system which might record the student's feedback and analyze the teacher's performance supported opinion mining victimization SVM classifier and so summarizes the teacher performance supported delimited outline rule i.e. count frequency of positive and negative reviews.[3]

The work aims to dig deeper into the feedback information of an establishment. Presently the feedback information is employed to report solely the performance of the teacher. The paper proposes ways to research the feedback information victimization data processing techniques for a higher understanding of the college, course, and student. The format of feedback varies from establishment to establishment, thus there cannot be a general technique which will appropriate all. The feedback information from the scholars is analyzed by victimization completely different data processing techniques. The feedback information is used for analyzing all the parameters thought of for feedback which might facilitate management in creating policy choices in teaching-learning method. This Paper surveys all data processing technique that is applied for analyzing feedback information.[4]

DISADVANTAGES OF EXISTING SYSTEM

- In the existing work, the system does not calculate large amount of data sets.
- This system is less performance due to lack of learning, Natural Language Processing.

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3. PROPOSED SYSTEM

The data is collected from the students in the form of the feedback of the college. The feedback consists of the textual reviews. Then the data pre-processing is done on the data that is collected. Later the Opinion classification is performed on the dataset and the results are obtained.

A collection of associated information including disconnect data fundamentals stored, retrieved, or else organized and indulgence as a unit, i.e., folder. For our project, we are using a comma-separated value data structure. Datasets areof two types' linear dataset and non-linear dataset. The linear dataset is the one which is having equal properties whereas the non-linear dataset is the one which is having non-equal properties. Machine learning works well for linear datasets. The datasets contain reviews made by students. This dataset contains 30,000 reviews with their studentfiid, student_ name, review, and their emotion.

The review contains textual input about the college. Pre-processing is the progression of concentrated effort the data from redundant elements. It enlarges the accurateness of the results by dropping errors in the data. Not by means of pre-processing, such as enchantment corrections, may lead the system to disregard important words. Pre-processing and concentrated effort of data are one of the most important tasks that must be one before dataset be able to be used for machine learning. The real-world statistics is strident, incomplete and incompatible. So, it is necessary to be cleaned. There are many general pre-processing techniques, of which the majority common is: ionization, convert text to lower or upper case, eliminate punctuation, take away numbers, take out repeated letters, get rid of stop words, stemming and negation. The data that is obtained after the pre-processing is done is given to the Machine learning algorithm.

Later the data is skilled through the machine learning algorithms. The built Machine learning models present the confusion matrix and the accurateness of the models. The dealing out time for running this module is also demonstrated. The output of the algorithm is that it results in a new column which shows the predicted emotion of the review.

ADVANTAGES OF PROPOSED SYSTEM

- Accurateness is outlined because of the quantitative relation of entire

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classificationsthat place unit specifically to the entire style of knowledge set.

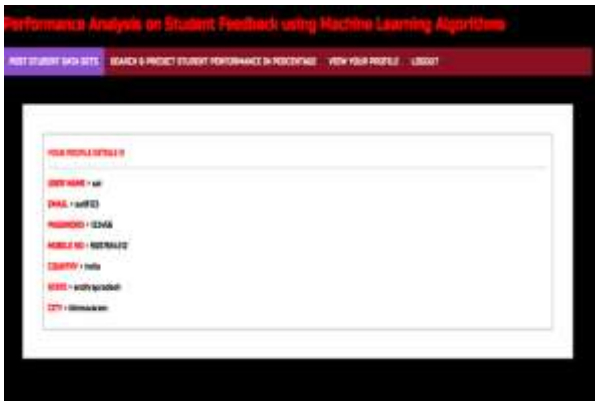
- The proposed system projected a web feedback system that is concerning automating the method of recording student's feedback.

4.OUTPUTSCREENS

LOGIN USING YOUR ACCOUNT

POST STUDENT DATA SET

VIEW YOUR PROFILE



REGISTER FORM

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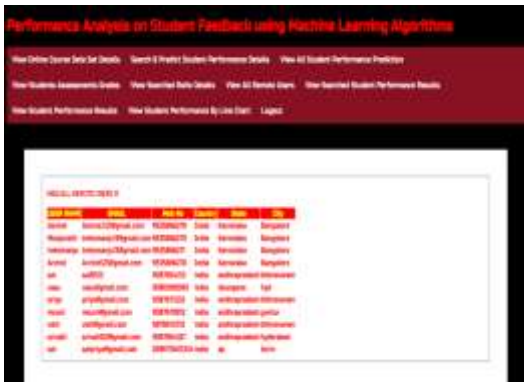
SERVICE PROVIDER

VIEW ALL REMOTE USERS



VIEW ALL ONLINE COURSE DATA SET DETAILS

VIEW SEARCH STUDENT DATA DETAILS

PERFORMANCE PREDICTION

STUDENT ASSESMENTS GRADES

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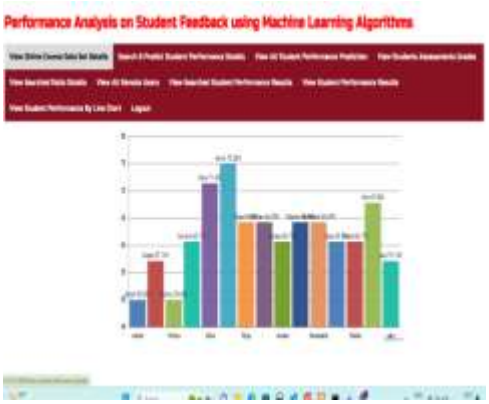
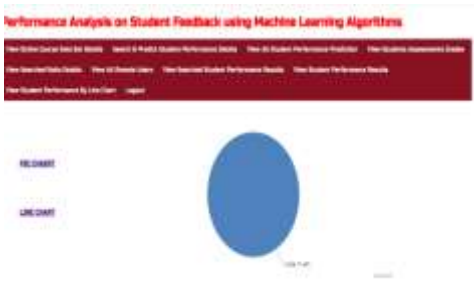
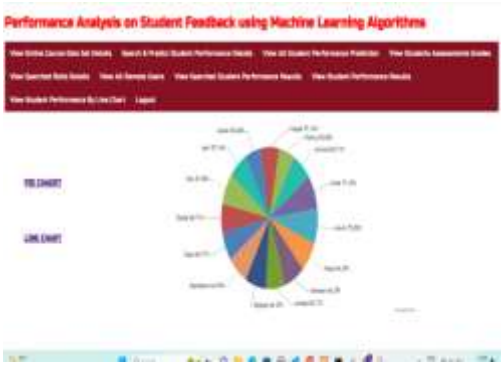
SEARCHED DETAILS BY KNN

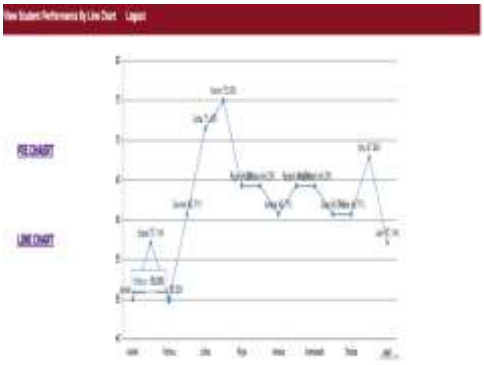


PIE CHART





LINE CHART



5.CONCLUSION

Two sets of exterminates have been carried out in this study using regression and

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classification analysis. The results of predicting students' assessments grades model show that the students' performance in a particular assignment relies on students' mark in the previous assignment within single Courses. The researchers conclude that students' prior grade point average (GPA) with a low mark is considered as a significant factor of withdrawal from the next course in thetraditional classroom setting, Both conventional classroom setting and virtual class share similar characteristic in term of the effective of previous performance into student learning achievement in the future.

The final student performance predictive model revealed that student engagement with digital material has a significant impact on their success in the entire course. The findings' results also demonstrate that long-term students' performance achieves better accuracy than students' assessments grades prediction model, due to the exclusion of temporal features in regression analysis. The date of student deregistration from the course is a valuable predictor that is significantly correlated with student performance. With the regression analysis, the data does not provide the last date of students' activity prior to undertaken assessments. The findings' results have been recommended to take into account the temporal features on predicting of subsequent assessments grades.

Future research direction involves the use of temporal features for predicting students' assessments grades model. With temporal feature time series analysis will be untaken, might be more advanced machine leering will be utilized

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