

METHODOLOGY FOR IMPLEMENTATION OF PREDICTION MODEL FOR STUDENTS USING MACHINE LEARNING

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Abstract

In this era, with the continuing growth in electronic devices and internet technologies, there has been a vast rise in data storage. The word data is explaining each detail that has been interpret into a form that is further convenient to move or process. In this project machine learning data have performed. However, machine learning technology brings a vast benefit which provides a computer the potential to learn without programming it. One of the applications of machine learning is E-learning. E-learning makes many things possible especially for learners to learn anytime and anywhere as well as in online on their own. Customization on E-learning has two steps- first part of the customization is forecasting the elegance and the second is suggesting the counsel of course selection depending upon the performance. Here the challenges in E-learning to tackle and discuss the customization classification which is the grade prediction.

Keywords: E-learning, Machine Learning, Naïve Bayes, Evaluation.

Introduction

Electronic learning is a new motoring of education which is distinct from traditional learning furnish a new positioning for learning. The main attribute of e learning is that the demonstration and communication of learning pacify is done via internet system. In e learning the students are furnished with the opportunity to learn at their stride is called self-learning. Student select the courses according to their obligation learning medium is also selected according to their needs.

The learning manner can play an important role in acclimatize e learning methods that indicate the path that students prefer. With knowledge of the different manner, computers and students can provide valuable advice and guidance to improve the learning process. In addition, an E-gradient system that allows a computerized, statistical algorithm opens up the possibility of overcoming the shortcomings of the traditional detection methods used in the questionnaire.

In existing system student should select course based on their knowledge, there will be absence of counsel concerning course selection which makes influence on student carrier. every student having their concede ability in different field. We should identify skills and suggest course which helps student to build virtue carrier. Machine learning plays an influential role in decision making in numerous fields, proposed approached implements machine learning in the field of e learning which makes a decision based on hasty performance of the student and suggest the course. Machine learning generate more accurate decisions and helps students to build their carrier. autosuggestion of course selection for students based on previous performance.

Literature survey

In paper [1] the comprehension about student linguistics is rudimental to solve summons and to define distinct method in teaching and learning. This paper examines a perspective to deal with e learning

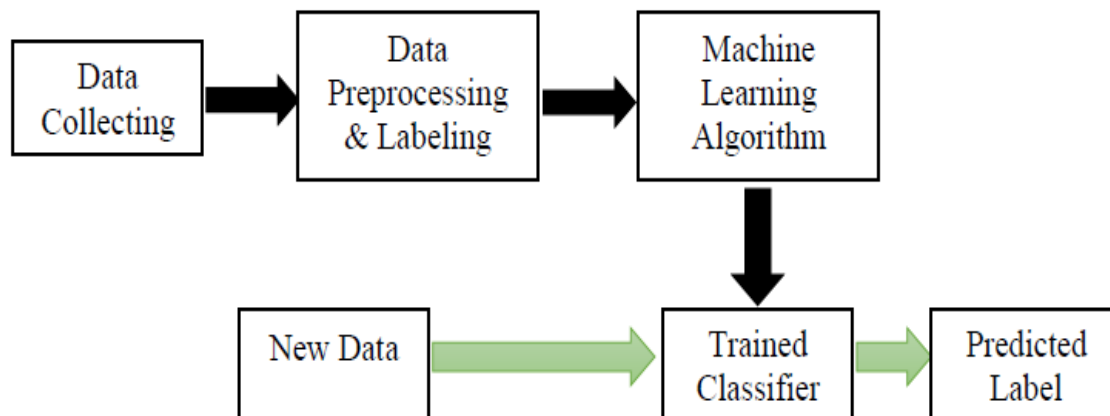
data. It consists of some objectives understand profiles of answer to guide a student to future learning activities, and to identify which criteria in each group is the most relevant for tutor help. It helps to understand patterns and answer the most of teacher issues on online courses.it aims to fill the gap between clustering and prediction analysis into the proposed approach.

In paper [2] forecast student linguistics has been a research swerve of attentiveness in current years with respective institution focusing on the student linguistics and education attribute. The investigate and forecasting of student academic performance can be attaining by using diverse data mining techniques. Therefore, such techniques allow instructors to determine possible factors that affect the student final marks.to predict the student performance at two stages of course delivery (20 % and 50% respectively) .in this paper, the problem of identifying student. Who need help during selection time for e learning environment. the goal is to predict the student performance by Classifying into three possible classes namely good, fair and weak.

In paper [3] one of the summonses facing in e learning platform is how to keep student self - motivated and arrested. Therefore, it is also crucial to identify students require help in order to make sure their academic performance doesn't suffer.in this paper, we mainly learn relationship between student engagement and their academic performance. here A priori association rules algorithm is used to derive a set of rules that relates student engagement to academic performance. among the challenges facing e learning is keeping the students engaged and motivated. this is especially important due to the impact that engagement has on academic linguistics.

In paper [4] a visual analytics system to investigate student learning behaviors on E learning platforms. It enables both correlation analysis of different interactions of students. the proposed system can help instructors quickly find the possible flaws in design of learning materials.in future, we plan to further improve the current system by comprehensive analysis (performance prediction). a real data set show that the system can better guide the design of learning resources and facilitate quick interpretation of students problem-solving and learning styles.

Flow Diagram



1. Data collection: the first step is collecting the data from the data sources. The data has been collected using a survey given to the students and the students grade book in this step we try to collect data from different sources with respect to our problem statement.in data collection we need to collect good quality and good quantity data.it helps our machine learning model to perform better and give results with better accuracy.

2. Data preprocessing: the second step is preprocessing the data in order to get a normalized dataset and then labelling the data rows.in data preprocessing stage we make sure that we refine and simply our data.so that machine learning model can easily process and understand the data.in data

preprocessing. we need to make sure our data is balance. we have to split the data into training set and testing set.

3. Model training: in the third step, the result of the second step, the training and testing dataset, is fed to the machine learning algorithm. The machine learning algorithm builds a model using the training data and tests the model using test data.in this steps we need to do whatever data split into training set and the data we have to pass our machine learning model can understand about the data.

4. Evaluation: in this step we evaluate trained machine learning model with the help of set of data.

5. Performance tuning: we try to tune the machine learning model so it can perform better and give us a good result.

6. Prediction: finally, the machine learning algorithm produces a trained model or a trained classifier that can take as an input a new data row and predicts its label.in this steps we use a new real time data and passed our machine learning model and our machine learning model does the prediction. Label parameter which required to predict result and then apply machine learning to prepare the model then apply test data apply classification rules and then finally predict results.

Data preprocessing loading our data and then we reduce the unwanted features and then splitting data. We need two kinds of data set one for training purposes and other one for testing purpose with the use of trained test of function. we splitting our data into two sets. we train our model with test data.so then build model and then train after prediction we get the accurate results.

Conclusion

Machine learning is a vast put forward in fulfilling intensified E-learning structure. This structure obliging for students to hand-pick savoury on foregoing linguistics based on the intended input it gives a stipulated output.

References

- [1] A. M. de Morais, J. M. F. R. Araujo, and E. B. Costa, “Monitoring student performance using data clustering and predictive modelling,” in Proc. IEEE Frontiers Educ. Conf. (FIE), Oct. 2014, pp.
- [2] M. Injadat, A. Moubayed, A. B. Nassif, and A. Shami, “Multi-split optimized bagging ensemble model selection for multi-class educational data mining,” *Int. J. Speech Technol.*, vol. 50, no. 12, pp. 4506–4528, Dec. 2020.