

A Progress Report On “Analysis of Faculty Performance Using Data and Opinion Mining”

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Abstract— Educational data mining (EDM) is one of the applications of data mining. In educational data mining, there are two key domains, i.e. student domain and faculty domain. Different type of research work has been done in both domains.

In existing system the faculty performance has calculated on the basis of two parameters i.e. Student feedback and the result of student in that subject.

But in proposed system, I will analyse the faculty performance using 4 parameters i.e., student complaint about faculty, Student review feedback for faculty, students feedback, and students result etc.

For this proposed system I will be going to use opinion mining technique for analyzing performance of faculty and calculating score of each faculty.

Index Terms— K-clustering algorithm, opinion mining, AES algorithm, Data mining, Educational data mining, Naïve-Bayes classification.

I. INTRODUCTION

1. Data Mining is the process of analyzing data from different perspectives and summarizing the result as useful information. Educational Data mining is an emerging research field in data mining and continuously growing with a boom. Incalculable data mining techniques have been applied to the variety of educational data [15].
2. For the better decision making in the learning environment, EDM consists of four phases: Data Preprocessing Data Validation Data Prediction Decision making process.
3. This study investigates the education domain for relative evaluation of faculty performance on the basis of two parameters student feedback and result in a course taught by faculty. Classification technique of data mining is applied to fulfill the objective. The goal of classification technique is to place an object into a category based on the characteristics of the object.
4. The whole paper is organized as: In section 1 Introduction about DM, EDM and some idea of relative problem is mentioned. In section 2 overview of related work in which educational data mining on student domain and faculty domain is discussed from previous research. In section 3 proposed brings up where educational data mining is presented in faculty domain. The proposed framework is explained in section 4. For the better decision making in the learning environment, EDM consists of four phases:

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Data Pre-processing
Data Validation
Data Prediction
Decision making process

II. LITERATURE REVIEW:

A. A Comprehensive Study of Educational Data Mining:

Author Jasvinder Kumar suggests that, educational data mining is a new discipline in research community that applies various tools and techniques of data mining (DM) to explore data in the field of education [2]. This discipline helps to learn and develop models for the growth of education environment. It provides decision makers a better understanding of student learning and the environment setting in as of EDM. It also highlights the opportunities for future research. Educational data Mining (EDM) has been evolved as multidisciplinary scientific learning area, rich in data, methods, tools and techniques used to provide better learning environment for educational users in educational context. This paper integrates all the modules of EDM required to facilitate the objectives of educational research. Lastly it shows that, there are many more research topics that exist in this domain.[2] Utilization of data mining techniques within education environment requires a joint effort by the ICT specialists, educationists and the learners.

B. Educational Data Mining: a Case Study-

Author Kalina suggest in this paper, Author show how using data mining algorithms can help discovering pedagogically relevant knowledge contained in databases obtained from Web-based educational systems. These findings can be used both to help teachers with managing their class, understand their students learning and reflect on their teaching and to support learner reflection and provide proactive feedback to learners. In this paper, Author has shown how the discovery of different patterns through different data mining algorithms and visualization techniques suggests to us a simple pedagogical policy. Data exploration focused on the number of attempted exercises combined with classification led us to identify students at risk, those who have not trained enough. Clustering and cluster visualization led us to identify a particular behavior among failing students, when students try out the logic rules of the pop-up menu of the tool. As in [5], a timely and appropriate warning to students at risk could help preventing failing in the final exam. Therefore it seems to us that data mining has a lot of potential for education, and can bring a lot of benefits in the form of sensible, easy to implement pedagogical policies as above. The way Author have performed clustering may seem rough, as only few variables, namely the number and type of mistakes, the number of exercises have been used to cluster students in homogeneous groups. This is due to our particular data. All

exercises are about formal proofs. Even if they differ in their difficulty, they do not fundamentally differ in the concepts students have to grasp. Author have discovered a behavior rather than particular abilities. In a different context, clustering students to find homogeneous groups regarding skills should take into account answers to a particular set of exercises. Currently, Author are doing research work along these lines.

C. *Extraction of rules based on students questionnaires:*

Author Manolis Chalaris; suggest there are many students in the Greek Higher Education that are still “lingering” in their Departments beyond the six years. The length of studies beyond 6 years has not been justified, and this study focuses on this problem. Author also studies another problem: The percentage of graduates scoring about 8.5/10 or more is extremely low [8]. Association rules mining is a well known data analysis method for extracting associations between data in a wide range of different fields. In this paper, Author focus on the generation of the appropriate association rules based on students’ questionnaires in Higher Education. A sample of 50.000 questionnaires was filled by 10.000 students in the TEI of Athens. Various interesting rules could be extracted related to learning goals, practices, years required for graduation, etc. These rules and clustering techniques could be used for solving the problem of the students that are still “lingering”, and the problem of the low “scoring” of the graduates. In this section, Author use the simple example of the section 3 in order to present the potential impact of these results in Higher Education, and how the described technique could be competitive.

III. SYSTEM DESIGN:

Data Collection
Data Preprocessing
Refined Data
KNN Algorithm
4 Parameters used(Calculate result for each parameter)
Sum of all parameters
Rule based classification algorithm
Analysis of all subject and class of each faculty result

Figure 1 Flow of System

IV. MODULES:

MODULE1:

ADMIN MODULE:

In first module, Admin panel is there ,admin panel contains register of teacher, admin login ,Feedback analysis. Admin can see the different feedback details given by student to perticular teacher branch wise. There are provision to provide feedback for all branches. If one teacher teaches to two branches then, it will be calculated by considering both branches students feedback.

PRINCIPAL MODULE:

In principal panel , the principle can register different teacher branch wise .can see the name of teacher with different complaints of them.

COLLEGE PROFILE:

Here I have consider college profile for my college .where I have inserted some entries for college teachers. and have created profile for principal, admin, teacher and student.

V. CONCLUSIONS:

The overall performance of multiple classifier approach is better than the single classifier approach. In the second step of multiple classifier approach we Rule-based classification have been used where the authors define their own rules for classification, which make the difference from single classifier approach. In single classifier approach we sum up the both parameters scores which may restrict the performance of this approach. Future work can enhance the performance of the approach by considering some more parameters according to the Requirement of the organization. Secondly, in the present work, author has taken only Computer Science and engineering department faculties. Future work can be enhanced for all branches of the college for overall performance enhancement of the college.

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