

# A WEB BASED APPLICATION FOR TUTORING SUPPORT IN HIGHER EDUCATION USING EDUCATIONAL DATA MINING

Devashree Shetye<sup>1</sup>, Prajakta Mangalkar<sup>2</sup>, Aishwarya Dashputre<sup>3</sup>, Akansha Sonawane<sup>4</sup>,  
P.V.Nagare<sup>5</sup>

<sup>1234</sup>UG Student, Dept. of Computer Engineering, LoGMIEER, Maharashtra, India

<sup>5</sup>Assistant Professor, Dept. of Mechanical Engineering, LoGMIEER, Maharashtra, India

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**Abstract** – This Paper aimed at developing on Online College Prediction System that is of importance to the college as well as students. In recent time for student to select college for higher education is very difficult as per their aggregate percentage. After the complete of diploma for higher education admission limited seats are available. Student don't know for his/her which college is applicable. This study focuses on ways to support student in admissions decision making using data mining techniques to predict colleges based on previous cut-off performance at institute. In college prediction system based on valid and reliable cut-off criteria is very important to select colleges for higher education. Every college enroll their college in college module then admin have a right to approve or disapprove if the college is centralized then admin approved this college if college decentralized then admin disapprove this college. centralized college is show to student as per their percentage

**Key Words:** Data mining techniques<sup>1</sup>, Educational data mining<sup>2</sup>, College Cut-off Prediction<sup>4</sup>, Online System<sup>5</sup>, Database<sup>6</sup>, Student Aggregate<sup>7</sup>.

## 1. INTRODUCTION

In Recent Time, all higher education institutions, especially diploma pass out student's, face challenges in the admission process. Each university should strive for an admissions system based on valid and reliable admissions criteria that select student likely to succeed in its cut-off criteria. In addition, each student should use the best possible techniques for predicting college previous cut-off criteria for admitting them.

Each student faces some issues because in admission system, limited seats are available that's why student's get confuse because in India each college have a different category criteria. In category wise limited seats allocated for each college, then student gets confused and put wrong option according their aggregate without seeing criteria and then unfortunately lost all this college options. Second way of admission is management through but in that also college requirement is very high for fees, every student is not affording these fees and student take one year gap and student loss their one year. On a survey basis there are 80% to 90% student did not find perfect college and lost their

admission due to they did not able to reserve the seat because of make mistakes in college selection. This type of condition makes additional threats to the student career.

To avoid this type of condition, student required some helping platform which gives them correct knowledge or information about college. In this context, this study focuses on supporting Students in making admissions decisions through the application of data mining techniques to better predict College before designation.

This would support institute decision makers as they set efficient admissions principles. This is because they use only formal statistical methods rather than new and efficient predictive techniques such as Educational Data Mining (EDM), which is the most popular technique to evaluate and predict college cut-off -performance. EDM is the process of extracting useful details and models from a huge educational database, which can then be used to predict students' performance.

## 1.2 System Design

We are having a three module which is Admin Module, College Module and Student Module. Number of institutes register on college module and student also register on module in this database huge number of records are stored. Admin manage the institute but the user is self-approved. System is process on this institute and student data and give the perfect prediction from the data. in institute data includes the institute Name, Code, Designation, Institute Mobile no, Institute Phone No, Email, District, Taluka, Address of Institute and Password. In student data contains Gender, Cate, Name, Enrolment No, Percentage, Passing Year, Institute name, University Name, Student Mobile No, Email, Department, State, Taluka and Password. On the basis of this data, system is done the prediction using data mining Technique. Data mining is one of the most useful procedures that help entrepreneurs, researchers, and individuals to extract valuable information from huge sets of data. Data mining is also called Understanding Discovery in Database (KDD). Using the data mining technique institute get shortlisted candidate for admission process.

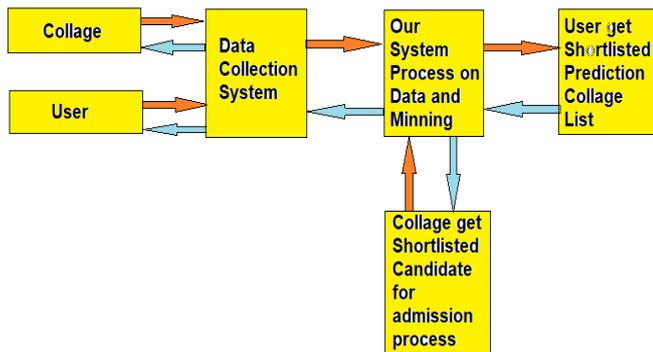


Fig-1: System Architecture

## 2. Literature Survey

Several data higher learning institutions, student percentage is the factor most important to a university's quality. EDM is currently the technique most commonly used by researchers to evaluate and predict student performance due to its significance in decision making.

Predicting college cut-off to student aggregate to has two main factors: attributes and prediction methods. It has been shown in that student aggregate is the most frequently used attribute in predicting student performance at university. It has been used in many examinations. Other attributes commonly used by exploration to predict college cut-off by student percentage at university are: category wise and branch wise. Few researches have used other attributes like extra student demography, and college information.

However, input variables such as college information are used to predict colleges cut-off to student aggregate of diploma for university in the college prediction process for student higher education admission. This is the focus of this study. Several data mining classification techniques have been applied for college prediction for student admission. For example, The institute allocated seat for minimum 20 and student apply their seat is 500 extra, so student don't know which college applicable above their marks and student have only three round for college if student select college, but their mark student not any seat allot then student applicable for management quota if student financial is poor then student not admit for college so it gates year drop means student loss their one year because of their mistake to fill form wrong, if student fill right college above their category wise criteria follow and previous cut-off then student don't have any loss so we study this process.

The analysis of the literature reveals that most available studies do not explore the relationship between college cut-off scores and their expected college in the admissions process. Thus, this study fills a research gap.

In this study, different admissions criteria were used as input attributes to predict student's second-year aggregate in the computer sciences colleges of engineering.

Most of the few published related studies performed in India have been confined to engineering colleges. These studies have not used EDM, which can discover hidden patterns in institution's large datasets, and therefore enhance their decision making. One of the very few studies related to this topic that has been confined to a computer science college is study, which applied one of the EDM techniques to predict student's final aggregate based on their grades in all semester. The authors of collected data from the institute of the Computer Science year wise cut-off. They identified which courses in the study plan most strongly affect for direct-second year student. However, they applied only one EDM technique on a very small database to predict college above their final aggregate percentage in diploma and did not ensure the accuracy of their results by using additional EDM techniques.

Another study that related to this topic is study of each institute because each institute has different cut-off of each year as branch wise and category wise, which applied key based algorithm to search student aggregate based on their college criteria above their last year cut-off of college. By comparing results of the college show above their final year aggregate using prediction techniques, they found that key based search outperformed others by achieving a prediction accuracy rate of 99%.

However, the studies have not assessed the relationship between admission criteria and computer science student performance in universities, which is the focus of this study.

To the best of our knowledge, the only related published study that addressed this topic is study. In this study, the authors applied classification techniques on a database of college to determine whether pre-result of cap round process have a significant effect on student aggregate. They found that institute final grade affects college more than student. These findings differ from the findings of this study.

However, their data was collected from all colleges, all department (Computer, Civil, Electrical, E&TC, Mechanical) and all category (Open, OBC, SC, ST, NT) of the College of higher education at India, which has five departments. In addition, they only used one key based search algorithm to search the key as department wise, category wise, and all other fields match on their data rather than applying different EDM models to predict colleges above colleges, which could have enhanced their findings.

### 3.1 Algorithm

Input:

root, trapdoor containing keyword to be searched.

Output:

pointer to the documents containing the keywords; NULL if non-exist.

1. Start

2. NODE\_x = Disk Read (root).

3. if NODE\_x is an index node

(a) If there is an object o in NODE\_x such that o: key = keyword, return o: value.

(b) Find the child pointer x: child [I] whose key range contains key.

(c) Return Search Query (NODE\_x: child [I], key).

4. else If there is an object o in NODE\_x such that o:key = keyword, return o:value. Otherwise, return NULL.

5.end if.

The takes trapdoor and root as input and searches for the keywords match in database.

The disk Read reads the corresponding root page from disk to memory and returns the location in memory that gets stored in node NODE\_x.

If NODE\_x is index node then trapdoor is checked to see for keyword match. If found returns the corresponding document pointed by the node. Otherwise based on keyword, search will move to the child of NODE\_x using pointers.

The search continues recursively. Otherwise, if NODE\_x represents leaf then return the pointer to document if search succeeds otherwise NULL.

### 3.2 Flowchart

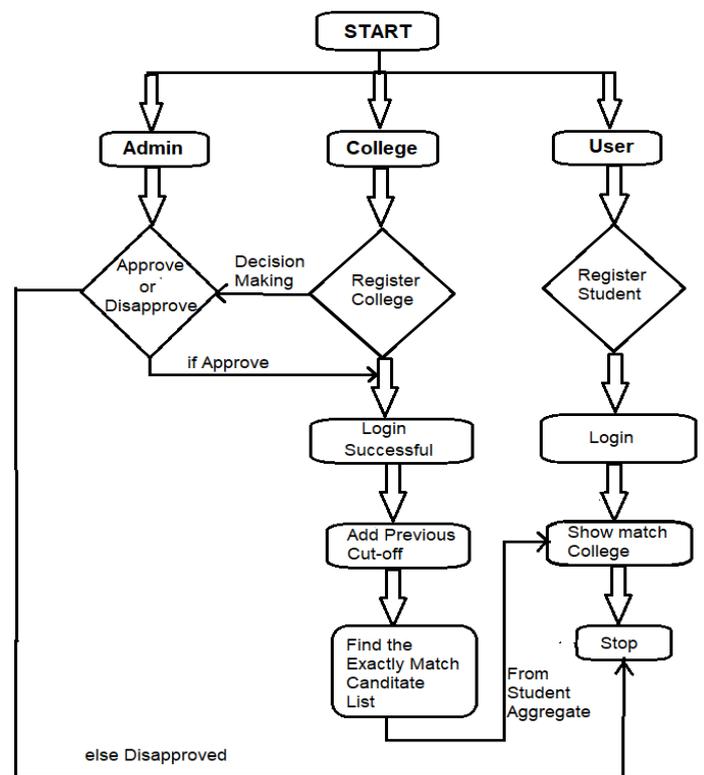


Fig 2-: Flowchart of College Prediction System

### 4. Result

**Step1-:** First go on browser there are three module Admin, College, User each one has unique password and unique username. Each user has firstly Register herself then login by username and password and Each college has register herself then admin have authority to decide college has centralized or decentralized, the college is centralized then admin approved the college otherwise disapprove college. College is approved then college login by username and password.

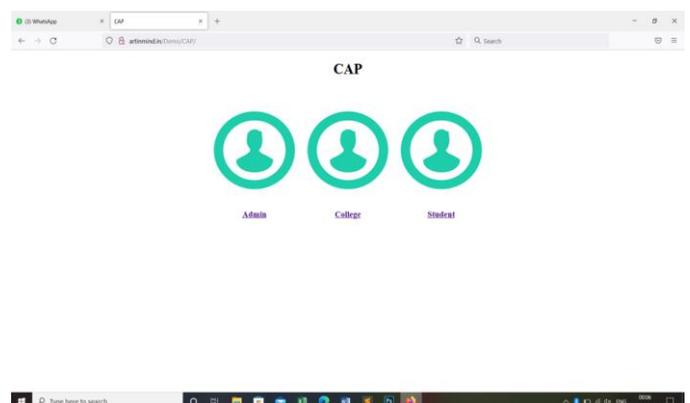
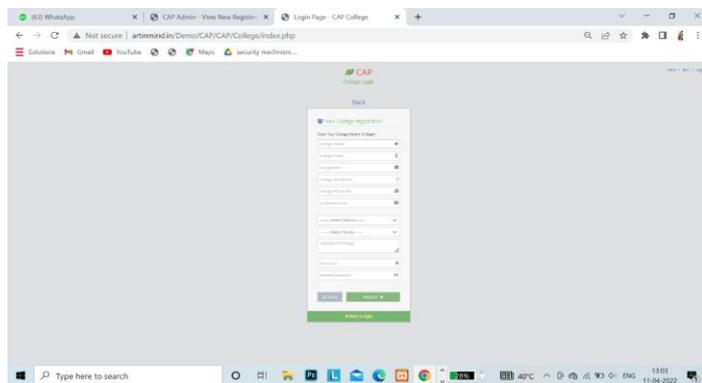


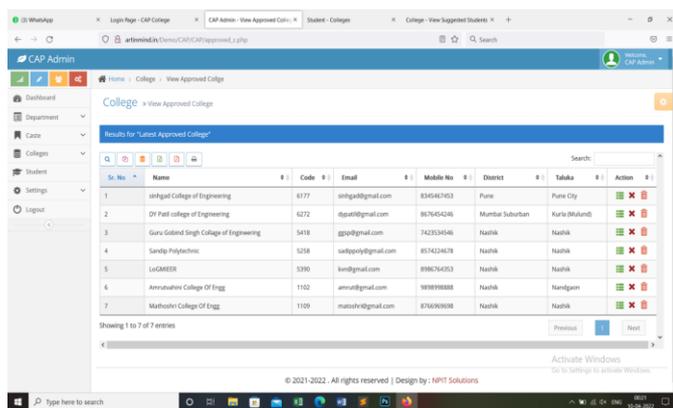
Fig3-: Home Page

**Step2-:** Go on college module and register the college. In that form all field are required.



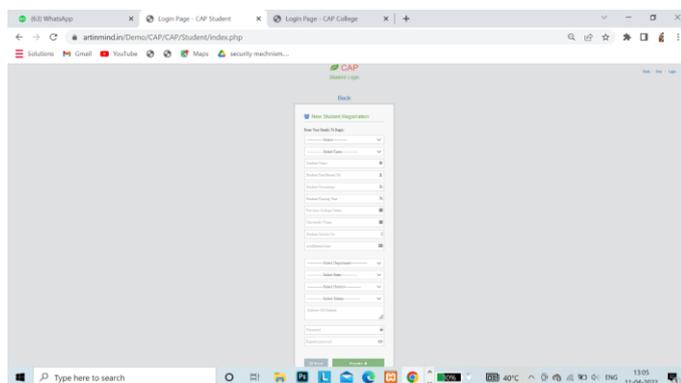
**Fig 4-:** College Registration form

**Step3-:** After register the college, if the college is centralized this is approved by admin and then we are able to login otherwise it will give you error. After login college can add the cut-off of the year and view the student which applicable for the college.



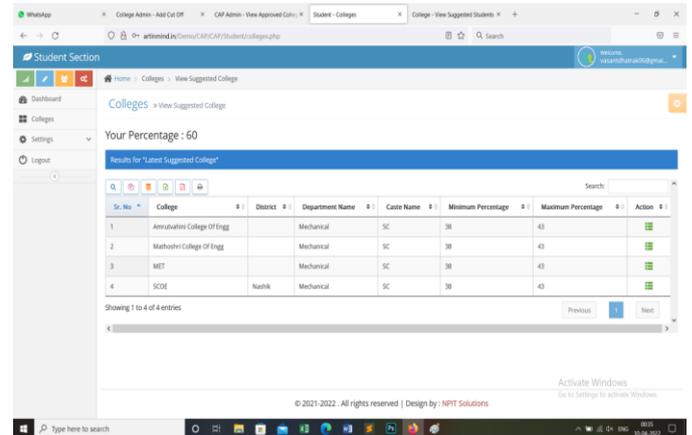
**Fig-5:** Centralized College list Admin panel

**Step4-:** As a student go to the student module and register, student is self-approved. Register using user name and password.



**Fig6-:** Student Registration Form

**Step5-:** Check the college for admission which is perfect for you and you can take the admission in this colleges.



**Fig5-:** Exact College match to Student Profile

## 5. CONCLUSIONS

The aim of this study is to support Students in making good decisions in its admissions process by predicting College before filling the admission form. The study was conducted with a largest dataset of college. The technique used, however, are generally and can be used in any higher education institution. The study confirms the effectiveness of prediction College for higher education where decision makers can use these models in planning and optimizing colleges. In addition, the results show that a high-performance model to predict colleges early performance could be developed based on pre-admission information. Also, college and student search using deep searching means search with one or more keywords.

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Aishwarya Dashputre  
Student  
Computer Engineering  
KVN Naik College of Engineering

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Aakansha Sonawane  
Student  
Computer Engineering  
KVN Naik College of Engineering

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## BIOGRAPHIES



Devashree Shetye  
Student  
Computer Engineering  
KVN Naik College of Engineering



Prajakta Mangalkar  
Student  
Computer Engineering  
KVN Naik College of Engineering