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PREDICTION OF ADMISSION IN ENGINEERING COLLEGE

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ABSTRACT :

A student by himself is not mature enough to take right decision in his early life. Selecting the wrong courses means mismatch between student aptitude, capability and self interest. Faculty or parents have neither the required knowledge nor experience. Since there is no other reliable source generally available that can guide the student towards the most suitable direction, so this recommended system has been evolved to provide him guidance in selecting a right engineering branch. This system recommends them suitable branch based on their score. In this system, K nearest neighbors is used to recommend branch and collaborative filtering is used to recommend colleges

.Keywords: ML, DL, Student efficiency, accuracy.

INTRODUCTION

Now a day's on the internet there are lot of information available, so user get confuse which information he has choose or which information is proper. Due to improper information about any college, student and parent get confuse about admission. Due to improper knowledge student do not get desired branch of the college. With the rapid growth of various application on the internet recommendation systems become fundamental for helping users alleviate the problem of information overload. Since there is no other reliable source generally available that can guide the student to enter into proper educational field , Student counselling must include opinion on career guidance, handling inter-personnel relation, qualities of learning strategies and also the attitude and aptitude. Normally this activity is provided by

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counselors or advisors who have lots of experience in the organization. But with growing number of students and numberof choices, and the amount of work on these advisors are not able to handle the situation, the faculty of education institutions at higher secondary level does not have time to counsel their students due to workload. Hence it is desirable to have some form of intelligent recommendation tools that needed to be developed to help them in the process of admissions. This problem determined the inspiration for this research and for developing the recommender system to help students and staff. We proposed the system which discovers the influence of career discovery. It proposes the predictions for student's course selection based on their marks. The targeted population for this study was 12th passed students eager to join various fields of engineering. With the help of this recommendation system student will get more clear idea about which branch of the college is proper to take admission. In this system, the system take the input from students, that is the score of the student. Based on score it will recommend the branch name. The module is a computer- assisted program for career decision making on the basis of marks. Provision of career counseling services is one of the main factors furnishing students' academic success.Mainfeatureof student utilities is to give them the engineering branch best suited for their future and matches his marks. There are two main objectives behind proposing this system:

1 .To work out the requirements of recommended Systems for Educational Guidance.

2. To design and develop a Recommender System for Counselling purpose in Technical Education Field.

Recommender Systems for Educational Guidance is essentially required for helping students to select courses which will match with their score.Arecommendationsystem has been designed and developed as a Recommender System on Counselling in Technical Education Field and has been found effective.. This system is recommended to be extended for other selection systems as well. In this system, Knearest neighbors is used to

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recommend branch and collaborative filtering is used to recommend colleges.InKnearest neighbours, cosine similarity is used.In collaborative filtering, content based collaborative filtering is used. This project aims to reduce all the manual working and will generate a list of branches and colleges in which candidate is eligible.

EXISTING SYSTEM :

Now a day on the internet there, a lot of information available, so users get confused which information he has chosen or which information is proper. Due to improper information about any college, students and parents get confused about admission. Due to improper knowledge , students do not get desired branch of the college. With the rapid growth of various applications on the internet, recommendation systems become fundamental for helping users alleviate the problem of information overload. Since there is no other reliable source generally available that can guide the student to enter into a proper educational field, student counselling must include opinion on career guidance, handling inter-personnel relations, qualities of learning strategies and also the attitude and aptitude. Normally, this activity is provided by counselors or advisors who have lots of experience in the organization. But with growing number of students and the number of choices, and the amount of work on these advisors who are not able to handle the situation, the faculty of education institutions at higher secondary level does not have time to counsel their students due to workload. Hence it is desirable to have some form of intelligent recommendation tools that needed to be developed to help them in the process of admissions. This problem determined the inspiration for this research and for developing the recommender system to help students and staff.

PROPOSED SYSTEM :

The proposed system aims to develop a software for HSC passed students to recommend branches and college to them.. This project will help the high school students to get the list of branches as well as colleges based on their scores.

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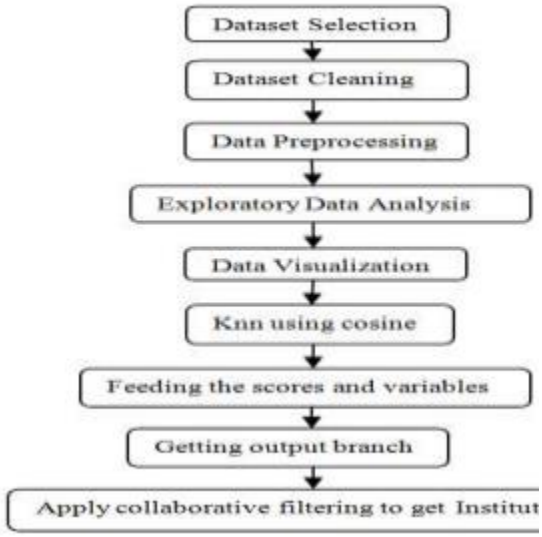
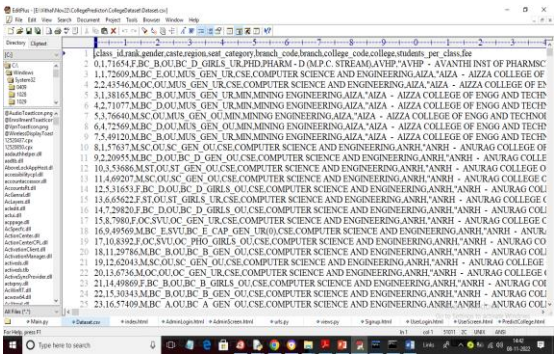


Prediction of Admission in Engineering College

In this project you ask to predict college admission for engineering or college students using machine learning algorithms and you ask us to implement following modules

1) Admin Module: admin can login to system using username and password as 'admin' and 'admin' and then load dataset and then train dataset with various machine learning algorithms called Random Forest, SVM and Decision Tree. There are 100's of colleges and it's not possible for admin to add all those colleges so we are using dataset which contains more than 50000 colleges details.
2) User module: user can signup with the application and then login and then can predict college by entering their academic profiles as input. Input values are Eamcet Rank, Gender, Caste, University and branch (engineering, pharmacy etc.)

Below screen showing dataset details used for machine learning algorithms training



In above dataset screen first rows contains dataset column names and remaining rows contains dataset values and each row contains Rank, gender, caste and college name with branch details and by using above dataset admin will train ML algorithms.

SCREEN SHOTS

To run project double click on 'run.bat' file to start python WEB SERVER and below screen

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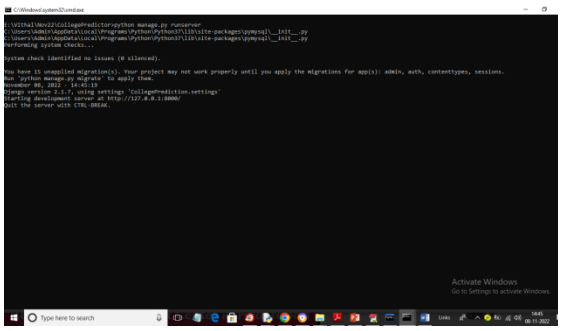
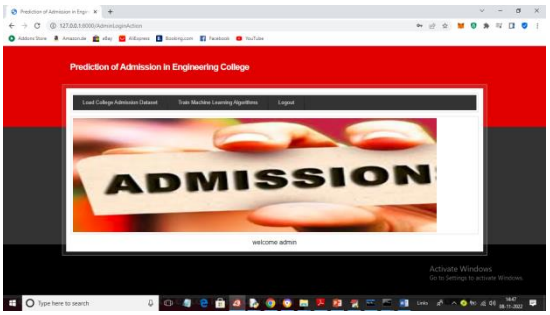
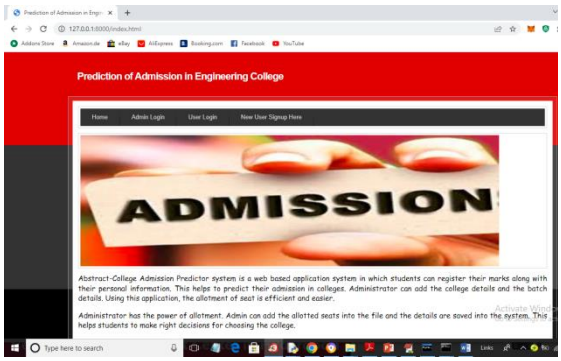


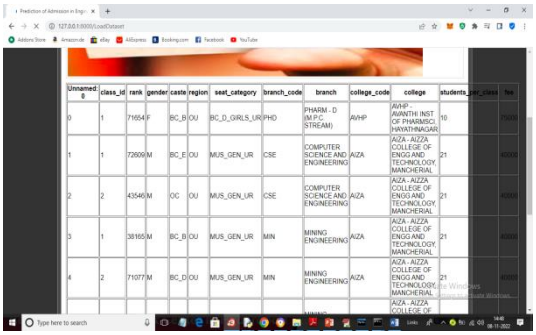
In above screen python web server started and now open browser and enter URL as http://127.0.0.1:8000/index.html and press enter key to get below page



In above screen we got admin HOME page and then click on 'Load College Admission Dataset' link to load dataset and get below output

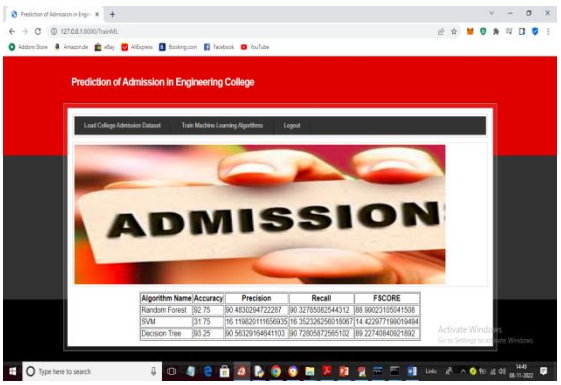


In above screen click on 'Admin Login' link to get below admin login screen



In above screen dataset loaded to application and now click on 'Train Machine Learning Algorithms' button to train algorithms and get below output

In above screen admin is login and after login will get below screen



In above screen training is completed and we got metrics output from all algorithms such as accuracy, precision, recall and

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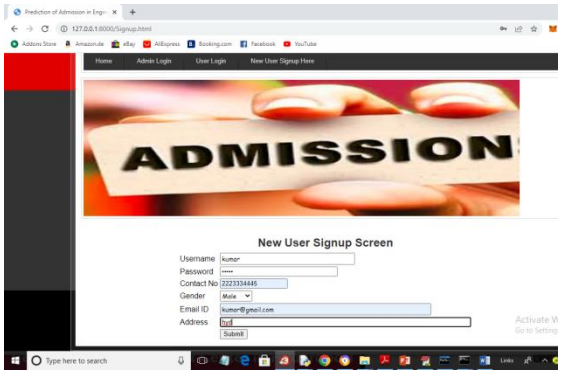
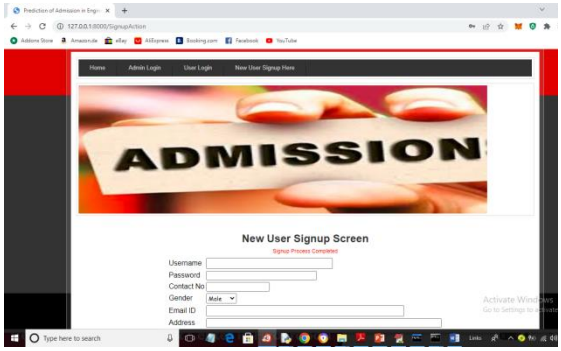
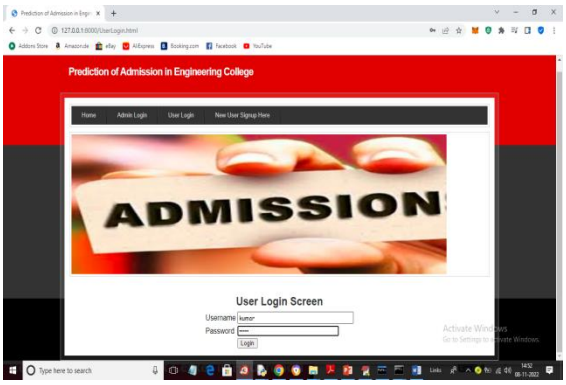
FSCORE and in all algorithms decision tree got highest accuracy as 93% and now algorithms training is completed and users can use this algorithms mode to predict colleges. Now click on 'Logout' button and signup one user



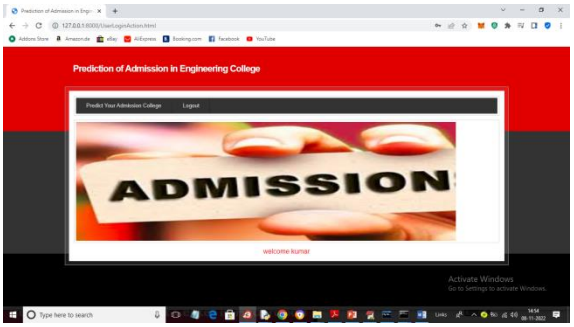
In above screen user is signing up by entering details and now click on 'Submit' button to complete signup process and get below output



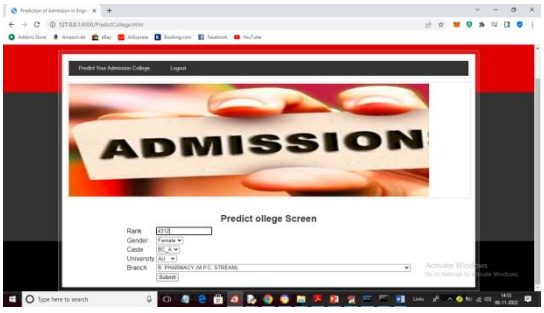
In above screen signup is completed and now click on 'User Login' link to get below login screen



In above screen user is login and after login will get below output



In above screen click on 'Predict Your Admission College' link to get below screen



In above screen user will enter his Rank and select desired details like Gender, Caste, university and branch and press button to get predicted college

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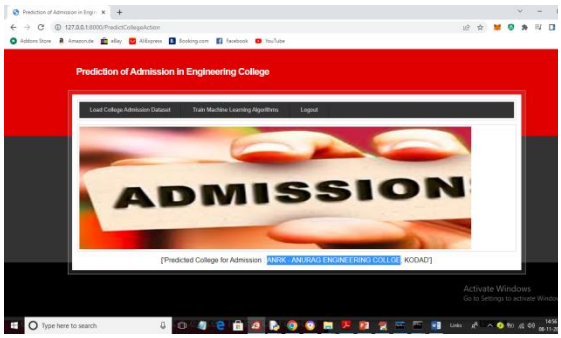
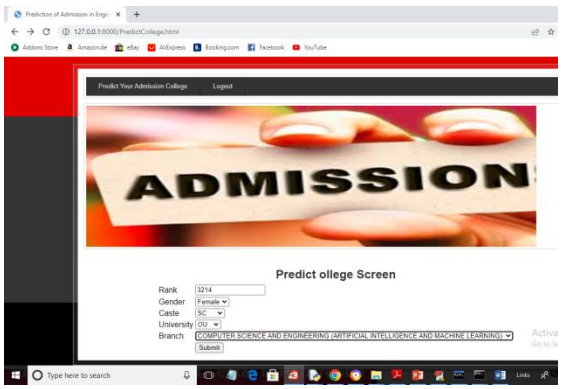
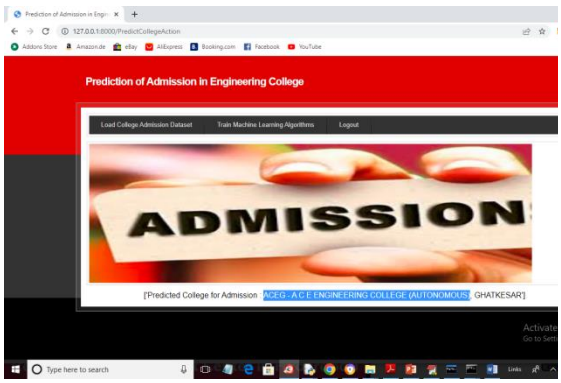


In above screen in blue colour text we can see predicted college is ‘Anurag Engineering College’ and similarly you can enter details and get predicted college and in below screen I am trying new test data



For above screen input will get below predicted college



In above screen college predicted as ‘ACEG’ and similarly you can predicted other colleges also.

CONCLUSION

Machine Learning allows us to reduce the human error probability by providing very strong recommendations, predictions, and decisions based on only the input data. For that reason, it has become one of the most important and common aspects of the digital world. Different application areas adapt and adopt Machine Learning techniques in their systems such as medicine, finance, marketing, business intelligence, healthcare, etc. In our case, we aim to design a recommender system based on Machine Learning techniques in the field of Education. Thus, the contributions were threefold: The first was to apply several Supervised Machine Learning algorithms (i.e., Linear Regression, Support Vector Regression, Decision Tree Regression, and Random Forest Regression) on our dataset. The second purpose was to compare and evaluate algorithms used to create a predictive model based on various evaluation metrics. The last purpose was to determine the most important parameters that influence the chance of admission. The experimental results showed that the

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Random Forest Regression is the most suitable Machine Learning algorithm for predicting university admission.

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