Intelligent Techniques for Prediction of Engineering Colleges After XII

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ABSTRACT

Today, students are very confused while selecting colleges based on their ranking after XII standard exam. If students are willing to go for engineering, then they are interested to know the name of colleges on the basis of their merit. The particular college depends on several factors. More and more colleges are interested in mapping students' other features such as extra-curricular activities and financial background, so that they can provide better platforms to sharpen their skills. Thus, this paper proposes an intelligent technique to provide students a platform that will help them to match the colleges based on their academics and extra-curricular qualifications. A fuzzy inference and weighted fuzzy decision tree are used to calculate the score of each student based on the multiple factors of the student where results are shown to be promising.

KEYWORDS

Adaptive Neuro Fuzzy Inference System (ANFIS), Mamdaini Fuzzy Inference System, Prediction, Weighted Fuzzy Decision Tree

INTRODUCTION

Every year, lakhs of students passes the XII class in India. There are only few thousand students who are sure about their future goals. Colleges are not only a place to study but also helps the student to overcome the issues arouse at the corporate world environment. A good college is one which not only has good academic environment but also excels in extracurricular activities. A good overall environment of colleges prepares the student for better future which also helps to improve the society. Thus, in the competitive world students are worried about their colleges after schooling to choose the appropriate college.

Predicting a college on scholastic basis was a history, with more and more involvement in extra-curricular activities these days students wants college which promotes their personality development and also gives them a platform to develop their skills. The basic idea behind this research is to predict the colleges using intelligent techniques. Intelligent system for college prediction requires is to study different types of students and choices of the student for opting the colleges. The selection of various

colleges depends on the various parameters such as courses offered, college structure, fee structure etc. In this particular request and understudies generally pick those streams for designing in which more grounds arrangement happened. Because of interest of the understudies towards building, the opposition for admission to prime designing establishment has turned out to be exceptionally mind boggling. The problem in the process of a discovering knowledge from data, in the field of educational data mining, is to identify a representative set of data, so that a classification model will be constructed. There is a lack of data on extra-curricular activities of students. Today, more and more students are involved in extra-curricular activities, thus this parameter should also be taken into consideration for college prediction. Currently College Prediction Systems in India uses only scholastic scores to predict the college; whereas other factors such as family income, extra-curricular activities, fee structure etc. were ignored. Findings show that extracurricular activities also play a vital role in knowing and taking admission in the college Hence this research work proposes an intelligent technique for College Prediction is to specifically provide students a platform which will help them to form their profile and match it to the colleges based on their academics and extra-curricular qualifications.

Data mining techniques and machine learning techniques have been used to predict the performance of a student. This paper uses a Mamdani inference method to predict the college of a student basis of score of extra-curricular and scholastic achievements. A weighted fuzzy decision tree is also proposed to calculate the performance score. This score is used to help to predict the appropriate college to student. Survey work demonstrates that grouping is the effective technique among the current strategies. The data collected from the survey via google form. A statistical method is used to analyze the result of survey. To validate the result of weighted fuzzy decision tree, an adaptive neuro fuzzy approach is applied. Further sections explain the related work, methodology and result analysis's for prediction of appropriate college to the student.

BACKGROUND

Data mining is used in various applications to identify unique patterns directions (Zhang, W., 2008; E.Venkatesan, S.Selvaragini, 2017). Traditional data mining and machine learning techniques may not be applied directly to extract the information or predicting the performance (Borkar, S., & Rajeswari, K, 2013). Now researcher have used fuzzy logic combination with deep learning neural either for prediction or classification(Guo, B., et al., 2015) . Applications such as educational data mining is an emerging discipline, concerned with data from academic field to develop various methods and to identify unique patterns helps to explore student's academic performance. Traditional multi-layer perceptron in neural networks method greatly suffers from substantial over fitting. The other two shallow models support vector machine and Naive Bayes are not capable to be comparably discriminative as SPPN. Some researchers have used three dimensional model, i.e. preference, fuzzy logic and influence to recommend the career oriented engineering stream These measurements are integrated with relative weighted set generated using Analysis Hierarchical Process (AHP) decision system to calculate the desire score of each student (Daud, A., et al., 2017) related to different career options. Personality, skills, Influence and trust measuring parameters are also used to recommend the career option using fuzzy logic inference system (Krishnamurthi, R., & Goyal,M., 2018). Influence computes the extent to which student is likely to be influenced by his seniors, friends, parents, and mentor choice for the target career path. To compute the friends, influence on a student, the trust between student and influential entities has to be computed based on their activities and social interactions. The greater the trust persist between student and his/her other friends, the Probability that the student gets influenced by them is of high value. If trusted friends give high priority to a career option, then student will also get positive about the same career option (Daud, A., et al., 2017).

Predicting the XII grade can provide a proper idea of a student that he/she would be able to achieve in life. A predictive model requires a data set that has the essential attributes to predict the future academic performance(Ahamed, A. S., Mahmood, N. T., & Rahman, R. M., 2017). Authors

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