

## **UNIVERSITY ADMIT ELIGIBILITY PREDICTOR**

1. This section provides the literature review of the work that has previously done on predicting the chances of students enrolment in universities. There have been several project and studies performed on topics related to students admission into universities. (Bibodi et al. (n.d.)) used multiple machine learning models to create a system that would help the students to shortlist the universities suitable for them also a second model was created to help the colleges to decide on enrolment of the student. Nave Bayes algorithm was used to predict the likelihood of success of an application, and multiple classification algorithms like Decision Tree, Random Forest, Nave Bayes and SVM were compared and evaluated based on their accuracy to select the best candidates for the college. Limitation of this research as that it did only relied on the GRE, TOEFL and Undergraduate Score of the student and missed on taking into consideration other important factors like SOP and LOR documents quality, past work experience, technical papers of the students etc.
2. Bayesian Networks were used by (Thi et al. (2007)) to create a decision support system for evaluating the application submitted by international students in the university. This model was designed to predict the performance of the aspiring students by comparing them with the performance of students currently studying in the university and had similar profile during their application. In this way based on the current students profile the model predicted whether the aspiring student should be granted admission to the university. Since the comparisons were made only with the students who were already admitted in the university and the data of the students who were denied admission were not included in the research this model proved to be less efficient due to the problem of class imbalance.
3. (Abdul Fatah S; M (2012)) developed a model that can provide the list of universities/colleges where the which best suitable for a student based on their academic records and college admission criteria. The model was developed by applying data mining techniques and knowledge discovery rules to the already existing in-house admission prediction system of the university. (Mane (2016)) conducted a similar research that predicted the chance of a student getting admission in college based on their Senior Secondary School, Higher Secondary School and Common Entrance Examination scores using the pattern growth approach to association rule mining. The performance of both the models was good the only drawback was the problem statement was single university-centric.

4. Mishra and Sahoo (2016))conducted a research from a university point of view to predict the likelihood of a student enrolling in the university after the have enquired about of courses in the university. They used K-Means algorithm for clustering the students based on different factors like feedback, family income, family occupation, parents qualification, motivation etc. to predict if the student will enroll at the university or not. Depending upon the similarity of the attributes among the students they were grouped into clusters and decisions were made. The objective of the model was to increase the enrolment of the students in the university.
5. (Eberle et al. (n.d.)) used machine learning and predictive modelling to develop a model that to evaluate the admission policies and standards in the Tennessee Tech University. A well know version of the C4.5 algorithm, J48 was used to create the model. Like the models mentioned above they used the different factors of the student profile to evaluate the chances of their admission in the university. The model worked well in predicting the true positive scenarios where the student was had good profile to secure the admission, but it failed in efficiently identifying the true negatives because of which student who does not satisfy the defined criteria.
6. GRADE system was developed by (Waters and Miikkulainen (2013)) to support the admission process for the graduate students in the University of Texas Austin Department of Computer Science. The main objective of the project was to develop a system that can help the admission committee of the university to take better and faster decisions. Logistic regression and SVM were used to create the model, both models performed equally well and the final system was developed using Logistic regression due to its simplicity. The time required by the admission committee to review the applications was reduced by 74% but human intervention was required to make the final decision on status if the application. (Nandeshwar et al. (2014)) created a similar model to predict the enrolment of the student in the university based on the factors like SAT score, GPA score, residency race etc. The Model was created using the Multiple Logistic regression algorithm, it was able to achieve accuracy rate of 67% only.