

UNIVERSITY ADMIT ELIGIBILITY PREDICTION SYSTEM

Introduction:

The world markets are developing rapidly and continuously looking for the best knowledge and experience among people. Young workers who want to stand out in their jobs are always looking for higher degrees that can help them in improving their skills and knowledge. As a result, the number of students applying for graduate studies has increased in the last decade. This fact has motivated us to study the grades of students and the possibility of admission for master's programs that can help universities in predicting the possibility of accepting master's students submitting each year and provide the needed resources.

Literature Review:

[1]. Graduate Admission Prediction Using Machine Learning:

The dataset is related to educational domain. Admission is a dataset with 500 rows that contains 7 different independent variables. Technical background:

A. Shapiro-Wilk Normality Test is a test performed to detect whether a variable is normally distributed or not depending on the pvalue. **B. Multiple Linear Regression** is a statistical technique used to predict a dependent variable according to two or more independent variables. **C. K-Nearest Neighbor** is a supervised machine learning algorithm used for classification and regression problems. **D. Random Forest** is one of the most popular and powerful machine learning algorithms that is capable of performing both regression and classification tasks. This algorithm creates forests within number of decision reads.

[2]. College Admission Prediction using Ensemble Machine Learning Models:

This paper aims to build a model that can help students to pick the right universities based on their profiles. We can judge across a wide variety of domains that include MS (international), M.Tech (India) and MBA (India and International). For the accurate predictions we plan on training a machine learning model in order to provide results. The dataset contains information on the student profile and the university details with a field detailing if the admission was positive or not. Various algorithms have been used i.e. Ensemble Machine Learning and the predictions have been compared using key performance indicators (KPIs). The model performing the best is then used to evaluate the dependent variable i.e. The chances of admit to a university. The chances of admit variable is a variable ranging from 0 to 1 which equates to the predicted probability of successful acceptance to a university. We also aim to create a portal which filters and then provides a list of universities that fall into the profile's acceptance range.

[3]. Predicting Undergraduate Admission:

The university admission tests find the applicant's ability to admit to the desired university. Nowadays, there is a huge competition in the university admission tests. The failure in the admission tests makes an examinee depressed. This paper proposes a method that predicts undergraduate admission in universities. It can help students to improve their preparation to get a chance at their desired university. Many factors are responsible for the failure or success in an admission test. Educational data mining helps us to analyze and extract information from these factors. Here, the authors apply three machine learning algorithms XGBoost, LightGBM, and GBM on a collected dataset to estimate the probability of getting admission to the university after attending or before attending the admission test. They also evaluate and compare the performance levels of these three algorithms based on two different evaluation metrics – accuracy and F1 score. Furthermore, the authors explore the important factors which influence predicting undergraduate admission.

[4]. Graduate Admission Prediction Using Machine Learning Techniques:

In India every year lacks of students getting the graduation degree and willing to join post-graduation in other countries. Newly graduate students usually are not knowledgeable of the requirements and the procedures of the postgraduate admission and might spent a considerable amount of money to get advice from consultancy organizations to help them identify their admission chances. Human consultant and calculations might be bias and inaccurate. This paper helps on predicting the eligibility of Indian students getting admission in best university based on their Test attributes like GRE, TOEFL, LOR, CGPA etc. according to their scores the possibilities of chance of admit is calculated.

[5]. Student Admission Predictor:

The aim of this research is to develop a system using machine learning algorithms, we will name it as Student Admission Predictor (SAP). It will help the students to identify the chances of their application to an university being accepted. Also it will help them in identifying the universities which are best suitable for their profile and also provide them with the details of those universities. A simple user interface will be developed for the users to access the SAP system.

References:

1. J. Han, and M. Kamber, "Data Mining: Concepts and Techniques, 2nd edition", Morgan Kaufmann Publishers, 2006
2. J. W. Seifert, Data Mining: An Overview, C-RS Report for Congress, Dec. 16, 2004, www.fas.org/irp/crs/RL31798.pdf.
3. G. Ganapathy, and K. Arunesh, "Models for Recommender Systems in Web Usage Mining Based on User Ratings" Proceedings of the World Congress on Engineering, Vol. I WCE 2011.

4. D. Mican, and N. Tomai, "Association-Rules-Based Recommender System for Personalization in Adaptive Web-Based Applications"
<http://gplsi.dlsi.ua.es/congresos/qwe10/fixers/QWE10-Mican.pdf>.

5. S. Liao, T. Zou, and H. Chang, "An Association Rules and Sequential Rules Based Recommendation System", Wireless Communications, Networking and Mobile Computing, 2008. WiCOM '08. 4th International Conference, 12-14 Oct. 2008.

6. Q. Li, and B. M. Kim, "Clustering Approach for Hybrid Recommender System" Proceedings of the IEEE/WIC International Conference on Web Intelligence (WI'03), 2003.

7. S. Nadi, M.H. Saraee, and A. Bagheri, "Hybrid Recommender System for Dynamic Web Users", International Journal Multimedia and Image Processing (IJMIP), Vol. 1, Issue 1, March 2011.

8. S. Tiwari, "A Web Usage Mining Framework for Business Intelligence", International Journal of Electronics Communication and Computer Technology (IJECCCT) Vol. 1 Issue 1 Sep.2011.

9. X. Su, and T. M. Khoshgoftaar, "A Survey of Collaborative Filtering Techniques" Advances in Artificial Intelligence Volume 2009, Article ID 421425.

10. J. A. Freeman, and D. M. Skapura, "Neural Networks: Algorithms. Applications. And Programming", Addison-Wesley Pub (Sd), June 1991.

11. E. Gottlieb, "Using integer programming to guide college admissions decisions: a preliminary report", Journal of Computing Sciences in Colleges, Volume 17, Issue 2, Pages: 271-279, 2001.

12. I. Hatzilygeroudis, A. Karatrantou, and C. Pierrakeas, "PASS: An Expert System with Certainty Factors for Predicting Student Success" Knowledge-Based Intelligent Information & Engineering Systems 2004. www.informatik.uni-trier.de/~leydb/conf/kes/kes2004-1.html