UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

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LITERATURE SURVEY

A literature survey or a literature review is that section which shows the various analysis and research made in the field of your interest and the results already published, taking into account the various parameters of the project and the extent of the project.

The following papers are studied in the following survey:

[1] "Graduate Admission Chance Prediction Using Deep Neural Network" by M. Omaer Faruq Goni, A. Matin, T. Hasan, M. Abu Ismail Siddique, O. Jyoti and F. M. Sifnatul Hasnain, at *(*2020 IEEE).

Every year many students apply for graduate admission to different universities. To select an applicant, each university has different selection criteria such as GRE score, CGPA, research background, statement of purpose, letter of recommendation, university rating etc. There are some web applications as well as some consultancy services for suggesting the appropriate university based on students' portfolio. These help to give an idea which universities should be applied for admission. But they have limitations because humans are incapable of considering all the conditions and universities. Moreover, web applications have accuracy problems. In this study, we have proposed a deep neural network (DNN) to predict the

chance of getting admitted to a university according to the students portfolio. All the selection criteria are considered here to predict the chance of admission. The DNN model has been compared with existing methods in terms of different performance metrics including mean squared error (MSE), root mean squared error (RMSE), mean absolute error (MAE), R-squared score. It has shown the most promising result that includes R-squared score of 0.8538 and MSE of 0.0031. The proposed method has also outperformed all the existing methods in each benchmark.

Index Terms—Deep Neural Network, Graduate Admission Prediction, Machine Learning.

[2] "College Admission Prediction using Ensemble Machine Learning Models" by Vandit Manish Jain, Rihaan Satia at (2021 IRJET).

The aim 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.

Key Words: Key Performance Indicators, M.Tech, MBA, Ensemble Machine Learning, Dependent Variable.

[3] "Using Data Mining Techniques to Predict Student Performance to Support Decision Making in University Admission Systems" by Hanan Abdullah Mengash at (2020 IEEE).

An admissions system based on valid and reliable admissions criteria is very important to select candidates likely to perform well academically at institutions of higher education. This study focuses on ways to support universities in admissions decision making using data mining techniques to predict applicants' academic performance at university. A data set of 2,039 students enrolled in a Computer Science and Information College of a Saudi public university from 2016 to 2019 was used to validate the proposed methodology. The results demonstrate that applicants' early university performance can be predicted before admission based on certain pre-admission criteria (high school grade average, Scholastic Achievement Admission Test score, and General Aptitude Test score). The results also show that Scholastic Achievement Admission Test score is the pre-admission criterion that most accurately predicts future student performance. Therefore, this score should be assigned more weight in admissions systems. We also found that the Artificial Neural Network technique has an accuracy rate above 79%, making it superior to other classification techniques considered (Decision Trees, Support Vector Machines, and Naïve Bayes).

Index Terms - Data mining techniques, educational data mining, performance prediction, pre-admission criteria, student performance.

[4] "Graduate Admission Prediction Using Machine Learning Techniques" by K. JeevanRatnakar, G. Koteswara Rao, B. DurgaPrasanth Kumar, G.prithvi, D.Venkata SaiEswar at (2021 IJARSET).

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.

KEYWORDS: Multiple Linear Regression, Random forest Regression, Multiple Linear Regression, Dimensionality reduction.

[5] "Graduate Admission Prediction Using Machine Learning" by sara Aljasmi, Ali Bou Nassif, Ismail Shahin, Ashraf Elnagar at (2020 IJCC).

Student admission problem is very important in educational institutions. This paper addresses machine learning models to predict the chance of a student to be admitted to a master's program. This will assist students to know in advance if they have a chance to get accepted. The machine learning models are multiple linear regression, k-nearest neighbor, random forest, and Multilayer Perceptron. Experiments show that the Multilayer Perceptron model surpasses other models.

Keywords — K- Nearest neighbors, Multilayer Perceptron, Multiple linear regression, Random forest, Student admission.