LITERATURE SURVEY

1. **TITLE:** College Admission Prediction using Ensemble Machine Learning Models

   AUTHOR: Vandit Manish Jain, Rihaan Satia

   OVERVIEW:

   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 domainsthatincludeMS (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). Themodel 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.

   MODEL: Linear Regression

   Accuracy: 82.12

2. **TITLE:** Supervised ML Modelling & Analysis for Graduate Admission Prediction

   AUTHOR: Sujay S

   OVERVIEW:

   Predictive modelling has found its place in this century for providing an in-depth view and in helping humans in their day to day activity. In this paper, I have analyzed and predicted the possibility of a person getting an admit for graduate courses in the United States based on a supervised machine learning algorithm using Python and its various libraries on a Kaggle dataset. After implementing immense research on the dataset, explored the relationship between each factor which contribute in one or the other way to get an admit. Finally, using linear regression, allowed the program to predict the data from the user.

   MODEL: Linear Regression

   Accuracy: 84.1

3. **TITLE:** A Comparison of Regression Models for Prediction of Graduate Admissions

AUTHOR: Mohan S Acharya, Asfia Armaan, Aneeta S Antony

OVERVIEW:

Prospective graduate students always face a dilemma deciding universities of their choice while applying to master's programs. While there are a good number of predictors and consultancies that guide a student, they aren't always reliable since decision is made on the basis of select past admissions. In this paper, we present a Machine Learning based method where we compare different regression algorithms, such as Linear Regression, Support Vector Regression, Decision Trees and Random Forest, given the profile of the student. We then compute error functions for the different models and compare their performance to select the best performing model. Results then indicate if the university of choice is an ambitious or a safe one.

MODEL: Linear Regression

Accuracy: Low MSE compare to Other

4. **TITLE:** A University Admission Prediction System using Stacked Ensemble Learning

AUTHOR: Sashank Sridhar, Siddartha Mootha, Santosh Kolagat

OVERVIEW:

For an aspiring graduate student, shortlisting the universities to apply to is a difficult problem. Since an application is extremely dynamic, students often tend to wonder if their profile matches the requirement of a certain university. Moreover, the cost of applying to a university is extremely high making it critical that students shortlist universities based on their profile. A university admission prediction system is quite useful for students to determine their chances of acceptance to a specific university. The system could make use of data related to previous applicants to various universities and their admit or reject status. Earlier models of such prediction systems suffer from several drawbacks such as not considering important parameters. Further, the accuracy reported by earlier models is also not sufficiently high. In this paper, a stacked ensemble model that predicts the chances of admit of a student to a particular university has been proposed. The proposed model takes into consideration various factors related to the student including their research experience, industry experience etc.

MODEL: Ensemble Algorithm

Accuracy: 91

5. **TITLE:** Prediction Probability of Getting an Admission into a University using ML

AUTHOR: A. Sivasangari, V. Shivani, Y. Bindhu, D. Deepa, R. Vignesh

OVERVIEW:

In the present conditions, students regularly have difficulty finding a fitting institution to pursue higher studies based on their profile. There are some advisory administrations and online apps that recommend universities but they ask huge consultancy fees and online apps are not accurate. So, the aim of this research is to develop a model that predict the percentage of chances into the university accurately. This model provides also the analysis of scores versus chance of prediction based on historical data so that students can understand whether their profile is suitable or not. The proposed model uses linear regression and random forest algorithms but cat boost algorithm is giving highest accuracy.

MODEL: Catboost Algorithm

Accuracy: 95