



**M.KUMARASAMY**  
**COLLEGE OF ENGINEERING**  
NAAC Accredited Autonomous Institution  
Approved by AICTE & Affiliated to Anna University  
ISO 9001:2015 & ISO 14001:2015 Certified Institution  
Thalavapalayam, Karur - 639 113.



# DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## NAALAIYATHIRAN PROJECT

**TITLE** : UNIVERSITY ADMIT ELIGIBILITY PREDICTION

**DOMAIN** : MACHINE LEARNING

**FACULTY MENTOR** : DR. S. SUJANTHI M.E., PH.D.

**INDUSTRY MENTOR** : SANDESH P

**PROJECT MEMBERS** :

REGISTER NO	NAME	ROLE
19BCS4108	SANTHOSH KUMAR P S	LEADER
19BCS4106	SANJAY KIRAN K P	MEMBER
19BCS4122	VIGNESHWARAN B	MEMBER
19BCS4123	VIGNESHWARAN K	MEMBER

# **UNIVERSITY ADMIT ELIGIBILITY PREDICTOR**

## **ABSTRACT :**

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.

## **LITERATURE SURVEY**

### **1.College Admission Prediction using Ensemble Machine Learning Models, 2021:**

Every year millions of students apply to universities to begin their educational life. Most of them don't have proper resources, prior knowledge and are not cautious, which in turn creates a lot of problems as applying to the wrong university/college, which further wastes their time, money and energy. With the help of this project, it helps such students who are finding difficulty in finding the right university for them. It is very important that a candidate should apply to colleges that he/she has a good chance of getting into, instead of applying to colleges that they may never get into. This will help in reduction of cost as students will be applying to only those universities that they are highly likely to get into. In this project the algorithms used are Linear Regression, Random Forest, Decision tree, Artificial Neural Network (ANN). The prepared models work to a satisfactory level of accuracy and may be of great assistance to such people. This is a project with good future scope, especially for students of our age group who want to pursue their higher education in their dream college.

## **2. Graduate Admission Prediction Using Machine Learning, 2020 :**

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. In this project the algorithms used are Multiple Linear Regression, K-Nearest Neighbor (KNN), Random Forest. And the accuracy of each algorithm is 0.0343 for Multi Linear Regression, 0.0363 for Random Forest, 0.0544 for K-Nearest Neighbor. And this model can be improved by more models can be conducted on more datasets to learn the model that gives the best performance.

## **3. UNIVERSITY ADMIT ELIGIBILITY PREDICTOR ,2019:**

The proposed a comparative approach by developing four machine learning regression models: linear regression, support vector machine, decision tree and random forest for predictive analytics of graduate admission chances. Then compute error functions for the developed models and compare their performances to select the best performing model out of these developed models the linear regression is the best performing model with R2 score of 0.72.

## **4. UNIVERSITY ADMIT ELIGIBILITY PREDICTOR ,2018:**

The proposed a developed project uses machine learning technique specifically a decision tree algorithm based on the test attributes like GRE, TOEFL, CGPA, research papers etc. According to their scores the possibilities of chance of admit is calculated.

## 5. UNIVERSITY ADMIT ELIGIBILITY PREDICTOR ,2016:

In this paper a comparison of different regression models. The developed models are gradient boosting regressor and linear regression model. Gradient boosting regressor has a score of 0.84. That surpassing the performance of linear regression model. They computed different other performance error metrics like mean absolute error, mean square error, and root mean square error. ChithraApoorva et al. [4] proposed different machine learning algorithms for predicting the chances of admission. The models are K- Nearest Neighbor and Linear Regression, Ridge Regression, Random Forest These are trained by features have a high impact on the probability of admission. Out of the generated models the linear regression model has 79% accuracy.

### TABLE OF ARTICLES

S. No	ARTICLE NAME	AUTHOR NAME	PUBLISHED YEAR	DRAWBACKS
1	College Admission Prediction using Ensemble Machine Learning Models	Vandit Jain, Manish Rihaan Satia	2021	It has always been a troublesome process for students in finding the perfect university and course for their further studies
2	Graduate Admission Prediction Using Machine Learning	Sara Aljasmi, Ali Bou Nassif, Ismail Shahin, Ashraf Elnagar	2020	This problem can lead to unstable regression model any slight change in the data will lead to a huge change in the coefficients of the multiple linear regression model
3	Graduate Admission Prediction Using Machine Learning Techniques	Acharya et al	2017	linear regression to the shot at conceding graduate understudies in expert's projects as a rate.
4	Graduate Admission Prediction Using Machine Learning Techniques	Janani Pet et al	2021	The developed model has 73% accuracy.
5	University Admission Prediction using Machine Learning	NavoneelChakrabarty et al	2020	These are trained by features have a high impact on the probability of admission. Out of the generated models the linear regression model has 79% accuracy.

## REFERENCES

1. Vandit Manish Jain<sup>1</sup>, Rihaan Satia<sup>2</sup> College Admission Prediction using Ensemble Machine Learning Models e-ISSN: 2395-0056 p-ISSN: 2395-0072 Issue: Dec 2021
2. Sara Aljasmi, Ali Bou Nassif, Ismail Shahin, Ashraf Elnagar, INTERNATIONAL JOURNAL OF COMPUTERS AND COMMUNICATIONS DOI: 10.46300/91013.2020.14.13. ISSN: 2074-1294 Issue: 2020
3. Janani P, HemaPriya V, MonishaPriya S, Prediction of MS Graduate Admissions using Decision Tree Algorithm, International Journal of Science and Research (IJSR) ISSN: 2319-7064 ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426.
4. Gupta N, Sawhney A, Roth D (2016) “ Modeling the graduate admission process for American universities”. IEEE 16<sup>th</sup> international conference on data mining workshops (ICDMW)2016.
5. NavoneelChakrabarty, Siddhartha Chowdhury, Srinibas Rana ons, A Statistical Approach to Graduate Admissions’ Chance Prediction, in book: Innovations in Computer Science and Engineering (pp.333-340), march 2020.
6. Vandit Manish Jain, Rihaan Satia DOI: 10.46300/91013.2020.14.13