

UNIVERSITY ADMIT ELIGIBILITY PREDICTOR



**-LITERATURE
SURVEY**

TEAM DETIALS:

Team No : PNT2022TMID32265

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UNIVERSITY ADMIT PREDICTOR

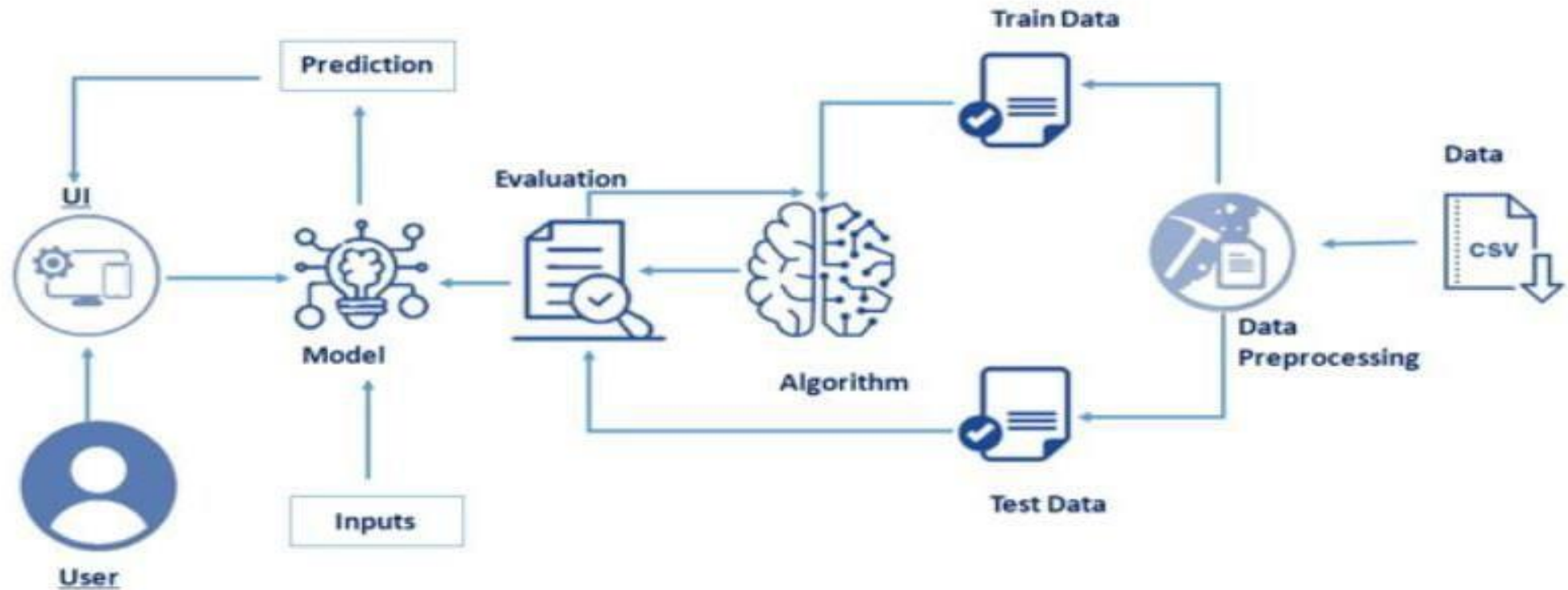
INTRODUCTION

UNIVERSITY PREDICTION would be the easiest mode to predict the university/colleges person is applicable for as well as it would unbiased and totally transparent. Individually would no more need to depend upon the consultancies who may be slightly deviated towards the list of colleges/university that may be having contract with them. Moreover applying to only that colleges/university where the student has genuine chance would even reduce application process. Additionally living expense of the area where colleges/university is located would also be provided on website

OBJECTIVES

- The main objective of this project is to help the students to save their time and money that they have to spend at the education consultancy firms.
- And also it will help them to limit their number of application to a small number by proving them the suggestion of the universities where they have the best chance of securing admission thus saving more money on the application fees.

SYSTEM ARCHITECTURES



Algorithms

Multiple machine learning algorithms were used for this research, K- Nearest Neighbor and Multivariate Logistic Regression algorithms were used to predict the likelihood of the students getting admission into university based on their profile. Decision Tree algorithm was used to predict the rank of the college that would be suitable for the students based on their profile and suggest the list of universities accordingly.

K-Nearest Neighbors: It is an algorithm which is used widely for classification and regression problems. Due to its simplicity and effectiveness, it is easy to implement and understand. Distance is calculated between the unseen data sample and the all other data samples already present in the data-set. Depending on the value of K, that many nearest neighbors are selected and their class is identified. The class of neighbors which has majority is assigned to the class of the new data sample. Generally, Euclidean distance is used to calculate the distance between the records. Multiple values of K should be tried and tested, and the value of K at which best performance is observed must be selected for the model.

Logistic Regression: Logistic regression algorithm is used to identify the probability of occurrence of an event based on single predictor variable. Multivariate Logistic regression can be used to determine the probability of the occurrence of an event based on multiple predictor variables.

Decision Tree: It is a supervised machine learning algorithm. Due to its simple logic, effectiveness and interoperability it the most widely used classification algorithm. The model works by creating a tree-like structure by dividing the data-set into several smaller subsets based on different conditional logic. The main components of the decision tree are the decision nodes, leaf nodes and the branches. Nodes with multiple branches are the decision nodes, nodes with no branches are called the leaf nodes, and the top node is called the root node of the decision tree. The nodes are connected to each other via branches based which are different conditions. The root and decision nodes are created by computing the entropy and information gain for the data-set.

Evaluation

K-nearest neighbor and Multivariate logistic regression algorithms were used to create a model that can be used to predict the likelihood of success of a student's application to the university based on his/her profile. Both algorithms were tested and their performance was evaluated based on different factors like Accuracy, Sensitivity, Specificity and Kappa value. As can be seen in the figure given below, the model created using K-Nearest Neighbor outperformed the model created using Logistic Regression on all the performance measures. Also, by looking at the variance in the values of the data, KNN seemed to be the best-fit algorithm to create the Student Admission Predictor System.

Accuracy was considered to be the main metric to evaluate the performance of the models, as the data used for creating the models was balanced. Also, prediction of the true positive and true negative scenarios was equally equivalent. The KNN model performed well with an overall average accuracy of 76%. The decision tree model, which was created to predict the rank of the universities suitable for the student, provided the result with an accuracy of 80%. The main objective of this research was to develop a prototype of the system that can be used by the students aspiring to pursue their education abroad.

A simple user interface was developed to make the application interactive and easy to use for the users from the non-technical background. The overall objective of the research was achieved successfully as the system allows the students to save the extra amount of time and money that they would spend on education consultants and application fees for the universities where they have fewer chances of securing admission. Also, it will help the students to make better and faster decisions regarding application to the universities.

« THANK YOU »

