

UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

A machine learning prediction tool

A Nalaiya Thiran Project

Domain – Education

Technology -Data Science, Machine Learning, Python

Submitted by

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Project Report Format

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

India is the second largest source of international students. Post-pandemic, 133155 Indian students left India for academic pursuits in the first 3-months of 2022.

While selecting universities, students look for convenient and instant result-producing services. To not get inundated with anxiety and confusion waiting for approval results. With increased stiff competition in admission at universities which have reported approximately 6.5% increase in applications, the chance of admission at a university has decreased significantly. It becomes crucial that aspirants have ample time and information to choose an apt university.

Most students either opt for internet surfing to find university standards or utilize unknown, expensive prediction apps with outdated data or not updated with modern features. Consequently, students are frustrated with the process and opt for costly educational consulting. However, both prove to be time-consuming, complex and expensive to students. Thus, students often find it depressing and feel anxious to make decisions.

Hence, we designed a University Admit Eligibility Prediction System/ Predictor using powerful ML algorithms. The predictor will help students by predicting a close enough percentage based on data gathered and recommending the university to the students.

Backed with a predictor tool, they will benefit substantially by saving time and money by making on-time decisions.

1.2 PURPOSE

The purpose of the project is to help students make informed decisions.

While researching has been observed that students make the decision regarding universities based on the following:

1. Students have misinformation about the University cut-off and apply to a university that inevitably leads to rejection.

2. Students with no guidance or support take the rash decision and apply to all universities incurring high costs.
3. Students finding difficulties correlating their skills with the university-provided courses opt for lower degrees/courses/universities even with good scoring.
4. Students with no financial support choose a local University with menial opportunities.

Hence the predictor could be used to solve some of the above problems. The instant results of the predictor guide students in making apt decisions about their career path.

Made with efficient Machine Learning algorithms the predictors generate results that depict the chance of admission of a student to a university. This result will help students make appropriate decisions regarding their preparation or applications.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM

In the existing scenario, students opt for educational counselling that is expensive and not affordable for everyone. Counselling by no means provides a complete guarantee to a student about their admission.

With the university application fees and other costs, counselling becomes more of a financial burden than a relief.

The available tools for the prediction of the chance of admission on the internet are long outdated due to poor User interface, non-modern features or slow and inaccurate predictions that used older Machine learning techniques.

Consequently, students are at a loss and find themselves to be unmotivated and clueless.

2.2 REFERENCES

- [Graduate Admission Prediction Using Machine Learning By Aljasmi, S., Nassif, A.B., Shahin, I. and Elnagar, A., 2020.](#)
- [Prediction of Graduate Admission Using Multiple Supervised Machine Learning by Bitar, Z. and Al-Mousa, A., 2020, March](#)
- [A Statistical approach to graduate admissions chance prediction by Chakrabarty, N., Chowdhury, S. and Rana, S., 2020](#)
- [A Comparison Of Regression Models For Prediction Of Graduate Admission By Acharya, M.S., Armaan, A. and Antony, A.S., 2019,](#)
- [College Recommendation System For Admission by Monali, D., Dhanashri, G., Dipali, J., Tejaswini, K. and Nale, R.K., 2018](#)

2.3 PROBLEM STATEMENT DEFINITION

Students want to get into apt Universities that provide niche and specialized courses/programs, higher job opportunities and salary packages. To get into such a university they do ample preparations for entrance exams. With the scores of the exams, the students get the opportunity to apply for the desired University. But the most daunting time is the waiting period after applying to a university to get their selection approval. To foresee such situations students, look for online free prediction tools that can present instant results and determine the next steps. Predictor tools are instant, need no fees and can be accessed easily for mobile devices. Predictors provide valuable insights about the cut-off of a university so that an upcoming aspirant can make use of better decisions.

3.IDEATION AND PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS

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PROJECT NAME	UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

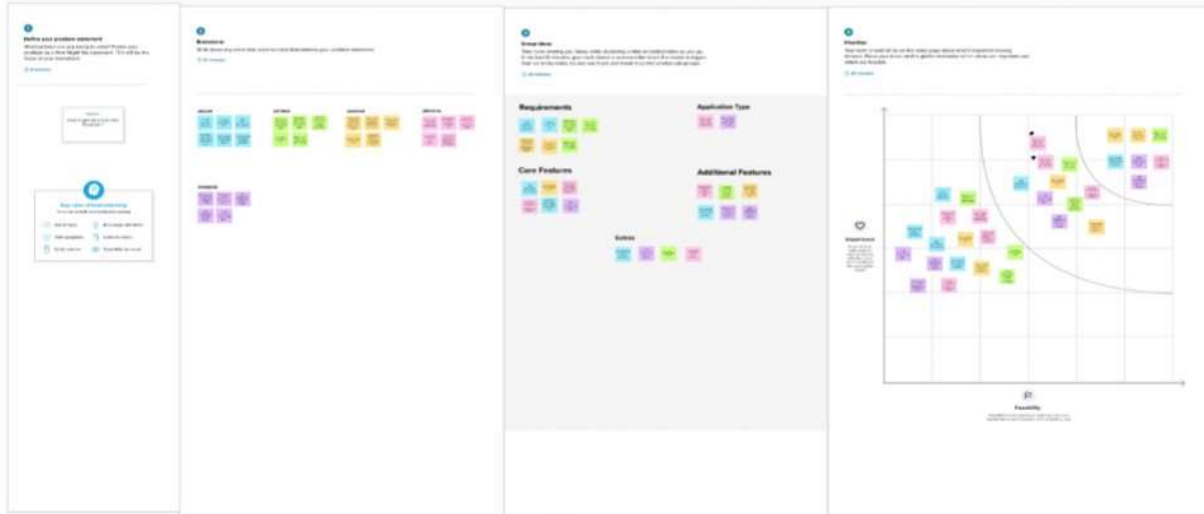
- 1 Build empathy and keep your focus on the user by putting yourself in their shoes.



3.2 IDEATION AND BRAINSTORMING

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PROJECT NAME	UNIVERSITY ADMIT ELIGIBILITY PREDICTOR

🌀 Lets Find Ideas to Solve Problems
Let Loose Your Creativity!💡



3.3 PROPOSED SOLUTION

Project Design Phase-I Proposed Solution Template

Date	1 October 2022
Team ID	PNT2022TMID23950
Project Name	Project – University Admit Eligibility Predictor
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	With the increased rates in the number of students/learners opting for abroad universities that provide niche and specialized courses/programs, higher job opportunities and salary packages, student want to be able to get in apt Universities. To make such informed decision student look for online free prediction tools that can present them instant results – comprehensive and detailed and need no fees and can be accessed easily.
2.	Idea / Solution description	<p>The Prediction model will be built to be efficient and effective using Machine Learning algorithms like – KNN, linear regression etc that provides accurate prediction based on past data collected. Users will get instant prediction results – the percentage chance of eligibility- on a given input of exam scores and university.</p> <p>Provided in graphical representation users can quickly grasp the output.</p>
3.	Novelty / Uniqueness	<ol style="list-style-type: none">1.The prediction system will be embedded in an application service for ubiquitous access and free of charge, sign in requirements,2.The results of prediction will be visualized in the form of intelligible charts/graphs with the past score/cut-off of a university,3.Dispaly of all possible eligible University and the requirements other than grades,4.Provision of necessary links/Blogs for users to discern.

4.	Social Impact / Customer Satisfaction	<p>A fast, consistent and precise UAE prediction system will provide many advantages.</p> <ol style="list-style-type: none"> 1.The user gets prompt results that are pictorially depicted, 2.Helps users to make informed judgement about Choosing the most fitting college. 3.Acts as a guide for users to prepare, with detailed information about GRE, TOFL etc. exams
5.	Business Model (Revenue Model)	<p>The need for online prediction system/service is in high demand after the covid-19. Student/Users need instant and reliable predictors. This system can cater to wide range of users apart from students and can employ subscriptions, sign in and other features to gain revenue.</p> <p>The system can be licensed to further generate revenue.</p>
6.	Scalability of the Solution	<p>The prediction system equipped with efficient ML algorithm can be further integrated with features like -location based university recommendation system, Colleges with high rate of admit predictions etc.</p> <p>By employing advanced frameworks, the application can be further improved for better user experience and usability.</p>

3.4 PROBLEM SOLUTION FIT

Problem-Solution fit canvas 2.0

Purpose / Vision To cross check the proposed solutions fit with the identified problems

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) Who is your customer? i.e. working parents of 0-5 y.o. kids A Graduated Student looking for Higher Studies(UG,PG) A Student preparing or will be preparing for exams - An education consultancy provider tied with colleges to help students in admissions	6. CUSTOMER CONSTRAINTS What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. 1. Financial Limitations - Unable to acquire costly consultancy services 2. Obstacles in procuring required documents for various university application 3. Unaware about each university's eligibility criteria's and in confusion about where to apply	5. AVAILABLE SOLUTIONS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking Available solutions: 1. Online prediction websites/apps 2. Education Consultancy 3. Help from university alumni/Friends Cons: 1. Unreliable prediction with varied output for same input 2. Unintelligible visuals prediction 3. Expensive Services	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. Problems Addressed: 1. Prediction system > Accurate, free of cost easy to understand 2. Update university admit eligibility factors 3. Providing instant results 4. providing User-friendly web services with good visualizations 5. Providing necessary details about the exams and score required	9. PROBLEM ROOT CAUSE What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations. Students of modern era and after COVID-19 rely on and want instant access to information/services that are: 1. Valid, relevant, and secure - available online 2. services are accessible free of cost and are prompt in delivering correct information 3. internet with its vastness is not free of fake, unreliable information and as such also has websites/app that unsafe/filled with ads and are irrelevant to students needs	7. BEHAVIOUR What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace) 1. Students consult friends/relatives/teachers 2. Looks for consultancy within budget range 3. Tries to predict chance of admission based on past results by browsing blogs/Quora/YouTube etc. websites 4. Post about his queries in forums, online talks etc.	Focus on J&P, tap into BE, understand RC
Identify strong TR & EM	3. TRIGGERS What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. 1. finding anything and everything is available online these days 2. peers making use of expensive predictions services to reduce application	10. YOUR SOLUTION If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. 1. Use Effective ML algorithms and prediction model for efficient predictions using user-friendly free of cost web service 2. Provide user-friendly visual graphs for ease of understanding 3. Recommend probable colleges with high chance of admission 4. Provision of prediction report in simple and legible format 5. Provide all valuable info to users regarding prediction system to build trust	8. CHANNELS of BEHAVIOUR 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 1. Ask around in forums/ Blogs 2. Watch YouTube videos and opinions posted in online sites 3. Sign-in in websites with prediction services 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. 1. Take feedback and advice from peers who are studying in abroad 2. Take in person counselling	Extract online & offline CH of BE
	4. EMOTIONS: BEFORE / AFTER How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design. lost, insecure, frustrated, anxious > aware, informed, driven to take informed steps, in control			



Problem-Solution fit canvas is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 license
 Created by Daru Neptrakshina / Amaltama.com

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 Project Name: University ADMIT ELIGIBILITY PREDICTOR



4. REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS

Project Design Phase-II Solution Requirements (Functional & Non-functional)

Team ID	PNT2022TMID23950
Project Name	University Admit Eligibility Predictor

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through Facebook
FR-2	User Confirmation	Confirmation via Email
FR-3	User login	Login via Email Id and password Login directly Facebook Forgot Password
FR-4	User logout	Logout button at navigation bar Logout button at profile page
FR-5	Profile/Dashboard	User Details Settings Log out
FR-6	Admit Predictor	Information about the predictor tool – working, accuracy etc. Fill required fields – target university, various scores, grades, etc Confirm details – predict chance
FR-7	Visualized Results	Prediction result output through graphs/charts/bar graphs Summary of the result in text Save result Try again for other university
FR-8	Recommendation Section	Recommended universities based on past cutoff/score and user score Suggest improvements Link for Relevant Blogs/Helpful resources
FR-9	Universities	Log in View all university based on location Link to university websites Courses and cutoff's of universities
FR-10	Social Share Links	Need help section –FAQ Contact us Email link Reach us out via Twitter Reach us out via Facebook
FR-11	User Review/Feedback	Rate us section Feedback form(Specific to predictor and website experience) Suggest Features/Report Bugs

4.2 NON-FUNCTIONAL REQUIREMENTS

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Usability of website maintained by : 1. UI/UX designed to support various devices, 2. Consistent design and layout with visible links/buttons, modular sub menus, 3. Seamless experience with good navigation, 4. Balanced and clear contents, CTA's and graphics with intuitive split of content on multiple pages, 5. Relevant and attractive images, icons and videos
NFR-2	Security	Following CIA triad to secure the website and user data: 1. Confidentiality–access control on information, limited access and file permissions, IAM, strong passwords(>8 char), admin roles 2. Integrity– accurate and unaltered data via encryption, SSL certification. 3. Availability– data access when needed; with firewalls. 4. Updated and secure extension/software/API(s).
NFR-3	Reliability	The website is made reliable by: 1. Fast loading, 2. Secure website, 3. Available at all time – 99.8%, 4. On failure or under attack database rollbacks to safe commits,
NFR-4	Performance	For better performance : 1. Simple and Modular website with fast loading(<3sec) 2. Moderate page size of html, css, javascript files, deferred render blocking code, 3. Fully compressed and optimised images/videos, 4. Effective mobile experience, 5. Use of CDN
NFR-5	Availability	1. Ensuring anytime, anywhere and all time availability(99.8%), 2. Notified planned maintenance, 3. Automated testing of website to test for uptime, monitoring etc.
NFR-6	Scalability	The website is made scalable by: 1. One site = one container logic, 2. Use of cloud (IBM Cloud) features like load balancing, traffic management, resource provisioning etc.

5. PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS

Project Design Phase-II Data Flow Diagram & User Stories

Team ID	PNT2022TMID23950
Project Name	Project -University Admit Eligibility Predictor

Data Flow Diagrams

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

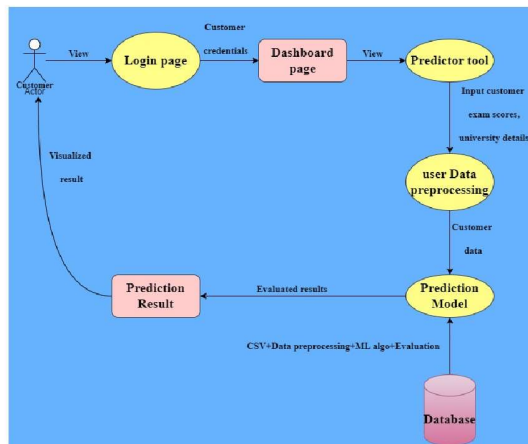


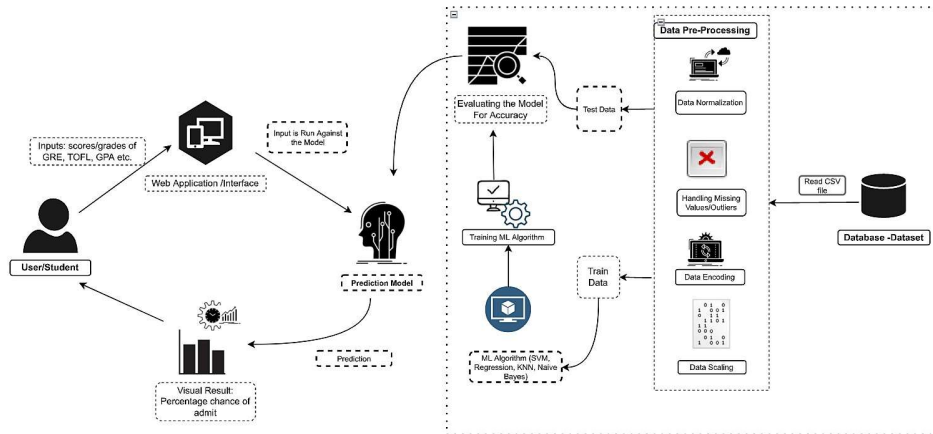
Fig: Data Flow Diagram for UAE Predictor

5.2.1 SOLUTION ARCHITECTURE

TEAM ID: PNT2022TMD23950

PROJECT NAME: UNIVERSITY ELIGIBILITY ADMIT PREDICTOR

SOLUTION ARCHITECTURE - USING MINIMUM VIABLE ARCHITECTURE



5.2.2 TECHNICAL ARCHITECTURE

Project Design Phase-II Technology Stack (Architecture & Stack)

Team ID	PNT2022TMD23950
Project Name	University Admit Eligibility Predictor

Technical Architecture:

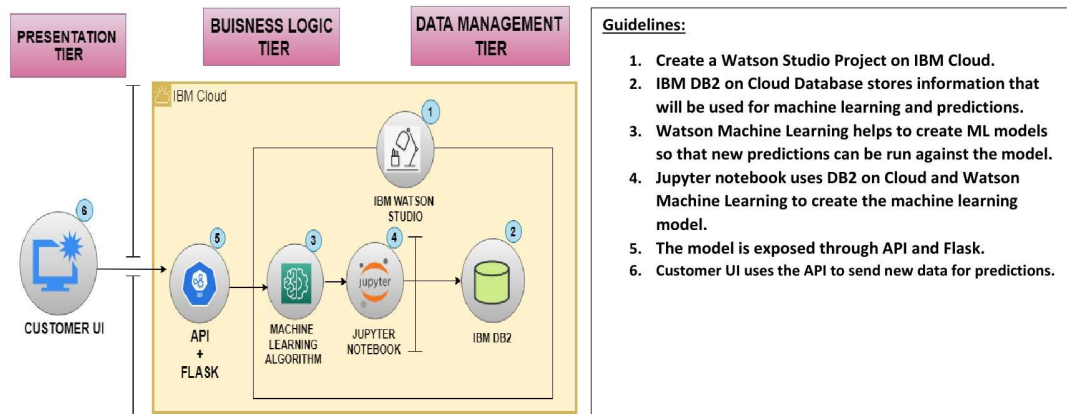


Table-1: Components & Technologies

S. No	Component	Description	Technology
1.	User Interface	<ul style="list-style-type: none"> Registration through Form, Gmail, Facebook Confirmation via Mail Login and Logout via Mail and Password 	HTML, CSS, JavaScript
2.	Platform	<ul style="list-style-type: none"> Platform for coding purpose 	Jupyter notebook
3.	Data pre-processing	<ul style="list-style-type: none"> Removing noisy values in the Dataset Handling Missing Values 	Python libraries (pandas, NumPy, Scikit-learn)
4.	Data visualization	<ul style="list-style-type: none"> Graphical representation of student details like chart, graph, plots, etc for easy understanding. 	Matplotlib, Seaborn
5.	Database	<ul style="list-style-type: none"> Storing Student details 	IBM DB2
6.	Cloud Database	<ul style="list-style-type: none"> Database Service on Cloud 	IBM DB2, IBM Watson cloud
7.	Machine Learning Algorithms	<ul style="list-style-type: none"> Purpose of Machine Learning Model 	Logistic Regressions, SVM, KNN, Decision tree
8.	Infrastructure (Server / Cloud)	<ul style="list-style-type: none"> Cloud server configuration for hosting the website. 	IBM cloud

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	<ul style="list-style-type: none"> To connect front end and backend. 	Flask python
2.	Security Implementations	<ul style="list-style-type: none"> Confidentiality Integrity Availability Updated Software and APIs 	Firewall, SSL certification, Encryptions, IAM Controls, Recommending strong passwords, etc
3.	Scalable Architecture	<ul style="list-style-type: none"> Use of cloud features like resource provisioning in all the 3-tiers 	IBM Cloud
4.	Availability	<ul style="list-style-type: none"> Ensuring anytime and anywhere Load balancing Traffic management 	IBM Load balancing
5.	Performance	<ul style="list-style-type: none"> Simple and modular website with fast loading (<5sec) Moderate page size of html, CSS, JavaScript files Fully compressed and optimized images and videos 	CDN

5.3 USER STORIES

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login
		USN-4	As a user, I can register for the application through Gmail	I can register & access the dashboard with Gmail Login
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access my login into my account / dashboard.
	Dashboard	USN-6	As a user, I can access my dashboard in the application	I can view my dashboard and the profile information
Customer (Web user)	Dashboard	USN-7	AS a user, I can access my dashboard in the application through the web browser	I can View and access my dashboard and the profile information
	Prediction Tool	USN-8	As a user, I can use the Prediction tool to predict my admission eligibility in the target University	I can instantly predict my chance of admit into a university
		USN-9	As a user, I can Try the predictor as many times I want with different target Universities	I can predict my chance of admit to various universities
		USN-10	As a user, I can get recommendations of different Universities based on my scores	I can get recommendations of different universities to compare and select the most apt university

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login
		USN-4	As a user, I can register for the application through Gmail	I can register & access the dashboard with Gmail Login
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access my login into my account / dashboard.
	Dashboard	USN-6	As a user, I can access my dashboard in the application	I can view my dashboard and the profile information
Customer (Web user)	Dashboard	USN-7	AS a user, I can access my dashboard in the application through the web browser	I can View and access my dashboard and the profile information
	Prediction Tool	USN-8	As a user, I can use the Prediction tool to predict my admission eligibility in the target University	I can instantly predict my chance of admit into a university
		USN-9	As a user, I can Try the predictor as many times I want with different target Universities	I can predict my chance of admit to various universities
		USN-10	As a user, I can get recommendations of different Universities based on my scores	I can get recommendations of different universities to compare and select the most apt university

6. PROJECT PLANNING AND SCHEDULING

6.1 SPRINT PLANNING AND ESTIMATION

Project Planning Phase Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

Team ID	PNT2022TMID23950
Project Name	Project – University Admit Eligibility Predictor
Maximum Marks	8 Marks

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	Jeevitha, Jothika
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Jeevitha, Jothika
Sprint-3		USN-3	As a user, I can register for the application through Facebook	2	Low	Shabana, Anjum
Sprint-2		USN-4	As a user, I can register for the application through Gmail/Google	2	Medium	Shabana, Janani
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	Jothika, Jeevitha,
Sprint-2		USN-6	As a user, I can log into the application via Gmail/Google	1	Medium	Shabana, Janani
Sprint-3		USN-7	As a user, I can log into the application via Facebook	1	Low	Shabana, Anjum
Sprint-1	Logout	USN-8	As a user, I can logout of the application by the logout Button	1	High	Anjum, Janani
Sprint-1	(User)Dashboard/ Homepage	USN-9	As a user, I can access my dashboard in the web application	2	High	Jothika, Janani
Sprint-2		USN-10	As a user, I can use my dashboard to view University details	2	Medium	Anjum, Jeevitha
Sprint-3		USN-11	As a user, I can use my dashboard to view my past admit prediction for a target university.	3	Medium	Shabana, Jothika

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-4		USN-12	As a user, I can use my dashboard to compare all my predict chances	3	Medium	Anjum, Jeevitha, Janani
Sprint-4		USN-13	As a user, I can use my dashboard to change settings	2	Low	Jeevitha, Anjum, Janani
Sprint-1	(User) Prediction Tool	USN-14	As a user, I can use the Prediction tool to predict my admission eligibility in the target University	4	High	Jothika, Janani, Shabana
Sprint-1		USN-15	As a user, I can try the predictor as many times I want with different target Universities	3	High	Janani, Jothika, Shabana
Sprint-2		USN-16	As a user, I can get recommendations of different Universities based on my scores and the necessary links	3	Medium	Janani, Anjum, Jeevitha
Sprint-3		USN-17	As a user, I get visual and textual results to better understand the prediction	3	High	Shabana, Jeevitha, Anjum, Janani, Jothika
Sprint-1	Admin Dashboard	USN-18	As an admin, I can use my dashboard to analyze the performance of the website	2	High	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-2		USN-19	As an admin, I can use my dashboard to set user privileges and permission	3	High	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-3		USN-20	As an admin, I can use my dashboard to monitor details about customer and user profiles to enhance the website UX	2	Medium	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-3	Admin Prediction Tool	USN-21	As an admin, I can update the prediction tool for better predictions(with updated model, algorithm dataset etc.)	3	High	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-3		USN-22	As an admin, I can update prediction tool page with better UI	3	High	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-4		USN-23	As an admin, I can set up a feedback/review/under maintenance page accordingly	3	Low	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-1(2,3)	Integration API	USN-24	As an admin, I can enable and update the integration of APIs, web frameworks etc.	3	High	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-4		USN-25	As an admin, I can monitor the integration of APIs, web frameworks etc. for security issues	3	Medium	Shabana, Jothika, Jeevitha, Janani, Anjum
Sprint-4	Security and Database	USN-26	As an admin, I can monitor and update security, database of the application	4	High	Shabana, Jothika, Jeevitha, Janani, Anjum

6.2 SPRINT DELIVERY SCHEDULE

SPRINT 1-

- **Create a basic website that lets user login into the website with the email and password , has prediction tool that takes user score, and provides output.**
- **Create the Jupyter Notebook with the prediction model algorithm as selected.**
- **Using the flask integrate the frontend and backend.**

SPRINT 2-

- **Enhance the feature of website ➤ Tunn the Notebook to better predict by hypertrophyin the parameters**

SPRINT 3-

- **Enhance the website features ➤ Jupyter Notebook**
-

SPRINT 4-

- **Various login option ➤ Prediction tool that gives visual results and chance of admit percentage**
- **University details and etc.**

8.TESTING 8.1 USER ACCEPTANCE TESTING

Acceptance Testing UAT Execution & Report Submission

Date	19 November 2022
Team ID	PNT2022TMID23950
Project Name	University Admit Eligibility Predictor

1. Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of the [students facing issues to get admission in a particular university] project at the time of the release to User Acceptance Testing (UAT).

2. Defect Analysis

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	2	3	20
Duplicate	0	0	0	0	0
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	4	0	0	4
Totals	23	13	8	25	72

3. Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Client Application	25	0	0	25
Security	2	0	0	2
Final Report Output	3	0	0	3
Version Control	0	0	0	0


9.RESULTS

9.1 PERFORMANCE METRICS

Project Development Phase Model Performance Test

Date	19 November 2022
Team ID	PNT2022TMID23950
Project Name	University Admit Eligibility Predictor

Model Performance Testing

S.No	Parameter	Values	Screenshots
1.	Metrics	Regression Model: MAE - , MSE - , RMSE - , R2 score -	
2.	Metrics	Classification Model: Confusion Matrix - , Accuracy Score- & Classification Report -	

10.1 ADVANTAGES

- The instant result of the predictor guides students in making apt decisions about their career path regarding their preparation.
- Students get to know about real competition in the outer world and thus making them more focused towards their goal.
- Students become much more responsible as there is a predictor to look after them.

10.2 DISADVANTAGES

- As there is limited dataset, students expectation for prediction of multiple university is impossible.
- SOP and LOR is less considered for eligibility of university admission.
- Since the research attribute is given in terms of yes/no, it is not well defined.

11. CONCLUSION

The project designed is an University Admit Eligibility Prediction System/ Predictor using powerful ML algorithms. The predictor will help students by predicting a close enough percentage based on data gathered and recommending the university to the students. Backed with a predictor tool, they will benefit substantially by saving time and money by making on-time decisions.

12.FUTURE SCOPE

- Large number of data sets can be accessible.
- Features based on researches will be enhanced.
- Version enhancement of graduate admission predictor.

13.SOURCE CODE

```
# Import necessary libraries

from flask import Flask, render_template, redirect, url_for, request
import requests
app = Flask(__name__)

# model = pickletools.load(open('lormodel1.pkl', 'rb'))

@app.route("/")
def index():
    return render_template("index.html")

@app.route("/predict", methods=['POST', 'GET'])
# @app.route("/predict.html", methods = ['POST', 'GET'])
def predict():
    if request.method == 'POST':
        arr = []
        for i in request.form:
            val = request.form[i]
            if val == "":
                return redirect(url_for("predict"))
            arr.append(float(val))

# Add the API key
# API_KEY = "IlvaUjyneyIEuzrlaqfKowecPv76uDlcl7Ogg1AhR7s6"
API_KEY = "Nao5NIrxCCWqpmFusPqFp8KCgT66q4gvH2liJQFq_HcL"
```

```

token_response = requests.post('https://iam.cloud.ibm.com/identity/token', data={
    "apikey": API_KEY,
    "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'
})
mltoken = token_response.json()["access_token"]
header = {'Content-Type': 'application/json',
    'Authorization': 'Bearer ' + mltoken}

payload_scoring = {
    "input_data": [{"fields": ['GRE Score',
        'TOEFL Score',
        'University Rating',
        'SOP',
        'LOR ',
        'CGPA',
        'Research'],
        "values": [arr]
    }]
}

response_scoring = requests.post(
    # 'https://jp-tok.ml.cloud.ibm.com/ml/v4/deployments/f1ba4fc9-6ec2-48da-aeb6-
ca3287d77fed/predictions?version=2022-11-17',
    'https://eu-de.ml.cloud.ibm.com/ml/v4/deployments/9aecac79-02b8-4ad2-955c-
ff801c4bc43c/predictions?version=2022-11-17',
    json=payload_scoring,
    headers=header).json()

print("Scoring response")
print(response_scoring)

result = response_scoring['predictions'][0]['values']

if result[0][0] > 0.82:
    return redirect(url_for('chance', percent= round((result[0][0]*100), 2)))
else:
    return redirect (url_for ('no_chance', percent= round ((result [0][0] *100), 2)))

```



```
else:  
    return redirect(url_for("demo"))
```

```
@app.route("/home")  
def demo():  
    return render_template("index.html")
```

```
@app.route("/index.html#about")  
def about():  
    return render_template("index.html#about")
```

```
@app.route("/index.html#team")  
def team():  
    return render_template("index.html#team")
```

```
@app.route("/index.html#contact")  
def contact():  
    return render_template("index.html#contact")
```

```
@app.route("/login")  
def login():  
    return render_template("signup.html")
```

```
@app.route("/signup.html")  
def signup():  
    return render_template("signup.html")
```

```
@app.route("/predict.html")  
def predictPage():  
    return render_template("predict.html")
```

```
@app.route("/chance/<percent>")
def chance(percent):
    return render_template("chance.html", content=[percent])


@app.route("/nochance/<percent>")
def no_chance(percent):
    return render_template("noChance.html", content=[percent])


@app.route('/<path:path>')
def catch_all():
    return redirect(url_for("demo"))


if __name__ == "__main__":
    app.run(debug=True)
```

GITHUD ID: [IBM-Project-18824-1659690548](#)

