ABROADEDUINDIA - A PRACTICAL COLLEGE ANALYSER

Empowering India Students with Data - Driven insights to choose the best colleges abroad

Capstone-I project report submitted

by the student of

Hybrid UG program in Computer Science & Data Analytics

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Declaration

I confirm that this submission is my own work and, to the best of my knowledge, it doesn't include anything written or published by someone else, or submitted for any other degree or diploma, unless clearly acknowledged.

Date: 30/04/2025

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History

When our team started the project, we initially came up with the idea to build an AQI website. However, we later realized that it wasn't feasible, so we decided to drop that idea and work on a new project that seemed more practical.

Why did we choose the AQI project initially?

- We noticed that many existing websites do not provide AQI data for smaller or local areas, which showed a clear gap in coverage.
- This gap motivated us to try and create a platform that could serve people in less-covered regions.
- We were interested in building something with real-life applications that could help raise awareness about air quality.

How much did we work?

- We had a long Zoom meeting to discuss how we could make the project feasible.
- We decided to collect data from available sources and planned how to proceed.
- As the frontend developer, I started working on the design and layout to make the
- website look appealing.
  We began gathering data, but soon we encountered a major issue.

What problems did we face?

- We realized that to collect accurate AQI data for local areas, we would need to install sensors in those locations.
- Setting up such sensors required a large amount of money, technical setups, and physical effort on the ground.
- Without real-time local data, the accuracy and usefulness of our project would be compromised.

What did we do to solve this?

- We explored alternative methods that didn't require physical sensors or expensive setups.
- We looked into using techniques like machine learning, interpolation, and other
- estimation methods to generate approximate AQI data.
  These methods helped us understand the potential of data-driven solutions, even if they couldn't fully replace real-time sensor data.

Why did we fail and what did we do next?

- We realized that the problems we faced were too big for us to solve at our current level,
- especially without the required resources.
- We also noticed that we had fallen behind other teams in terms of progress.
- With limited time and feasibility concerns, we had no choice but to switch to a new idea.
  That's when *AbroadEduIndia* was born—a project that was both meaningful and manageable for us.

Summary of the Project

AbroadEduIndia is a simple and helpful web platform we created to support Indian students in exploring and comparing foreign universities. It allows users to view key details like acceptance rates, QS rankings, student population, and other fifteen types of data in one place. Our aim was to make the study-abroad process a little easier and more informed for students like us. Throughout this project, we focused on building a clean and user-friendly design while learning a lot about web development, data science, teamwork, and problem-solving along the way. It was a meaningful learning experience for all of us.

Contents

Chapter 1: Introduction

AbroadEduIndia was created with the goal of helping Indian students explore and compare foreign universities in a simple and accessible way. As we started, we wanted to make the decision-making process easier by providing key data all in one place. The project grew from the need to bridge the gap in information available to students seeking opportunities abroad, and we aimed to build a platform that was both user-friendly and practical.

Motivation:

The idea for *AbroadEduIndia* arose from the challenges many Indian students face when navigating the complex process of studying abroad. Some of the key issues include:

- The absence of centralized and reliable information about universities, courses, and countries.
- The need for a platform that combines essential data insights with a user-friendly interface.

By addressing these challenges, *AbroadEduIndia* aims to provide students with the tools and confidence they need to make well-informed decisions about their future.

Historical Aspect:

Studying abroad has always been a dream for many Indian students, and over the years, the number of students choosing to pursue higher education overseas has grown significantly. However, selecting the right university, course, and country can be overwhelming, mainly due to the lack of reliable, centralized information. This project aims to fill that gap by offering a digital platform that makes the decision-making process easier and more informed for students.

Modern Technology in Education:

In today's world, technology plays a crucial role in shaping education. With advancements in data analytics, cloud computing, and web-based platforms, students have access to powerful tools that aid in making informed decisions. *AbroadEduIndia* leverages these modern technologies, using HTML, CSS, JavaScript, Node.js, Express.js, and more, to create a seamless and user-friendly platform. In the future, we aim to further integrate these technologies to enhance the functionality and experience for users.

Chapter 2: What is AbroadEduIndia - Detailed Overview

AbroadEduIndia is a website built by us, a group of IITians, with the goal of organizing, collecting, and presenting a large volume of data about colleges abroad. The website aims to help students narrow down their choices of universities based on their individual preferences and needs. By using various filters such as QS rankings and acceptance rates, students can customize their search to find colleges that align with their aspirations. Currently, the platform includes six filters with two mandatory filters (under development), which, when selected, generate a list of universities that match the criteria. Once the list is generated, students can explore each college in detail. Each college's profile is displayed with a dataset of fifteen key attributes, organized in a user-friendly way to help students make an informed decision.

We are also planning to introduce a feature that would allow students to connect with current enrollees of the selected colleges, providing insights and real-world experiences from students already studying there. Additionally, we're exploring the idea of offering financial support options for prospective students, helping them navigate the complexities of studying abroad. While this feature is still in the planning phase, we intend to discuss it further with our team and refine it before launching.

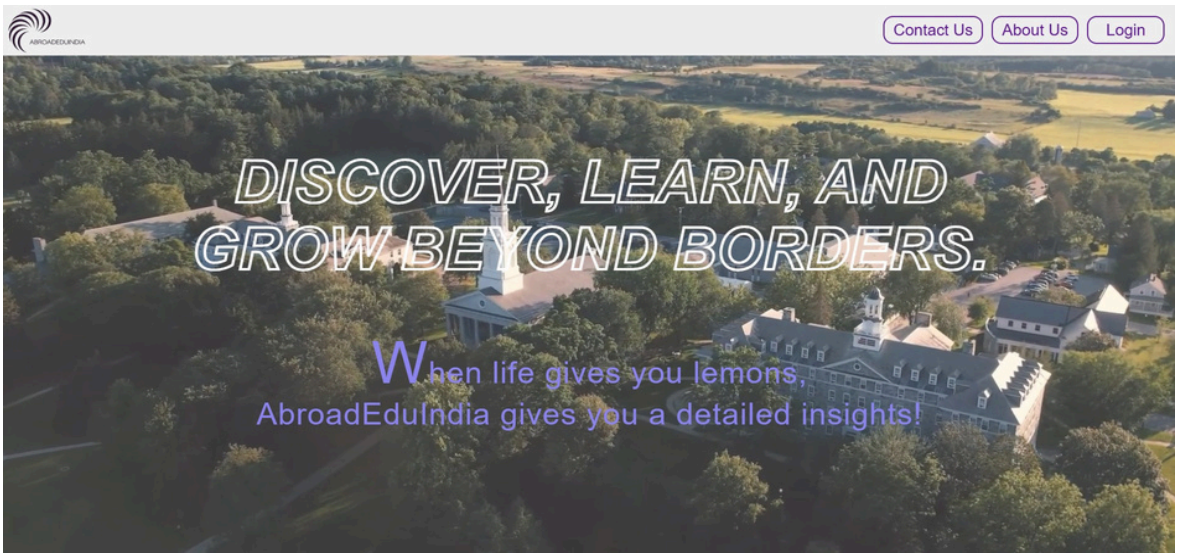
Other important features of the website include a dummy login page (for future development), a contact support page for user queries, and a section displaying statistics about the number of Indian students currently studying abroad, which we gathered from government data. Each of these features is aimed at making the platform more useful and accessible for students seeking guidance in their study-abroad journey.

Chapter 3: Project Progress and Development Journey

Till now, we have completed the following:

- A clean and visually appealing design along with a working demo model of the website.
- Functional pages like **Login**, **Contact Support**, and **About Us** to give the site a proper structure.
- A **graph section** that displays the number of Indian students studying abroad, based on real government data, giving users a quick statistical insight (more work is yet to be done) .
- A dedicated section for **Filters** (currently under development), which will help students shortlist colleges based on their needs.
- A working **List of Colleges** page that displays results based on filter selection.
- A detailed data page for **LMU Munich University**, showcasing how individual college profiles will look once the database is fully populated.
- Plus we have gathered data for around **300 universities** so far.

We've also added screenshots of our landing page below. To explore our work in more detail, you can visit: ~~https://abroadeduindia.netlify.app~~



Our development journey began with long hours of discussions on design, approach, and—most importantly—learning the fundamentals. We went through multiple design ideas, scrapping and rebuilding layouts until we found what worked best. It wasn't easy, especially since everything was done online, but we stayed committed and slowly brought the idea to life. There were a few small arguments over what to include and what to leave out, along with some misunderstandings along the way. But we resolved everything patiently as a team. Overall, it was a fascinating and exciting experience.

Chapter 4: Team Member, Roles and Their Contributions

Below is the detailed table:

Name	Role	Location	Contributions
Ankan Pal	Backend Devel…	West Bengal	He is currently focused on learning and is expected to contribute more actively after the mid-sem exams, as we mutually decided. In the meantime, he has managed meetings, handled scheduling, and contributed meaningfully to idea discussions, planning, and team decisions.
Noman Ahmad	Developer	Bihar	Noman was responsible for developing the front-end and back-end of the AbroadEduIndia platform. He designed a clean, responsive user interface that allows users to filter and search for colleges based on key parameters like country, course, and tuition fee. Using web technologies such as HTML, CSS, JavaScript. Noman also handled the overall site layout, user experience optimization, and testing to deliver a smooth and functional platform for students.
Mukesh Salve	Not Known	Not Known	Not Known

Note: Our team made several attempts to contact Mukesh Salve through email, calls, and other means, but unfortunately, we did not receive any response from him. After repeated efforts, we informed our professor about the situation and, with approval, proceeded without considering him a part of our project.

Chapter 5: My Role and Work

Responsibilities & Achievements:

- 🔍 Extensive Data Extraction
  - Conducted in-depth research to gather reliable and updated information about global universities, including tuition fees, course availability, living costs, and admission requirements.
  - Extracted data from multiple official sources, educational portals, and government websites to ensure accuracy and diversity in the dataset.
- 🧹 Data Cleaning & Standardization
  - Processed raw data to remove duplicates, fill missing values, and correct inconsistencies.
  - Applied uniform formats for country names, course titles, fees, and currency conversions to maintain consistency across the dataset.
- 📁 Excel-Based Structuring
  - Organized cleaned data into well-formatted Excel sheets with logical categorization (e.g., by country, course, and tuition range).
  - Created dynamic and filterable tables to simplify further analysis and make integration with the web application easier.
- ✅ Data Readiness for Development
  - Delivered finalized, clean Excel files used directly by the development team to implement filtering and recommendation features.

Chapter 6: Conclusion and Future Scope

Our team is dedicated to building and continuously enhancing the project with innovative ideas, ensuring that it remains useful and effective for students seeking study-abroad opportunities.

Conclusions:

In conclusion, the AbroadEduIndia project has been a rewarding and insightful journey. Despite the challenges, our team has worked collaboratively to build a platform that addresses the information gap for Indian students looking to study abroad. We've developed key features like the landing page, filters for university selection, and detailed college data, all while learning and improving as we progressed. This project has not only helped us build a useful tool but has also provided a valuable learning experience in web development and teamwork.

Future Work:

Looking ahead, there are several features we plan to implement to further enhance the platform. We will complete the filtering functionality, allowing users to narrow down their college choices based on various criteria like QS rankings and acceptance rates. We have also planned to expand the database to include more universities and countries. As we continue to improve the website, we will focus on enhancing the user interface, adding more dynamic features, and ensuring that the platform provides the most accurate and up-to-date information. Additionally, we have also decided to make the user authentication in the login page if possible.

REFERENCES

We took inspiration and learning from several websites to enhance our own and used them as key resources to build critical elements of the platform. Below is the link to those websites we referenced:

- AcadFly
- Leverage Edu
- Idp Abroad
- ChatGPT
- Udemy

Our source code has been successfully uploaded to GitHub, and the website has been successfully deployed. Both links are listed below:

- GitHub
- AbroadEduIndia