**Program: DAB-402 Capstone Project Winter 2023-003**

**Group: - 5**

**Project Title:**

**Develop AI and ML frameworks/models to automate the university application process.**

**Group members (Name, ID):**

* Tanmay Daulatwal (0798588)
* Niren Patel (0794177)
* Shashank Tripathi (0789803)
* Nitin Singh Rana (0770080)

**Data Description:**

The information gathered contains details on 5 universities and 5 colleges, such as their names, the titles of their programmers, and the tuition and application costs associated with each program. The data also contains the application URL, which makes it simple to acquire additional specific information about each program. Using this data, frameworks and models for AI and ML will be created to automate the college application process. By utilizing the power of artificial intelligence, this initiative aims to increase the efficiency and availability of the university admission process for students. The decision-making process will be streamlined by automating the application process, which will allow for analysis and use of the data gathered from each institution and college to offer recommendations to prospective students.

**Data Quality:**

The information gathered regarding Canadian universities and colleges is believed to be highly accurate as it was sourced directly from the institutions' official websites. The data is also considered to be comprehensive, as all necessary information was collected. The consistency of the data is commendable as the same information was obtained from all university and college websites. The data is also likely to be current as the information was retrieved from the websites, which are expected to be up to date. However, it is possible for some discrepancies in the data to exist, such as unreflected changes in fees or programs, and additional validation may be necessary to guarantee the data's reliability and accuracy.

**Data Fitness:**

The information gathered from universities and colleges is ideal for a project aimed at creating AI and ML frameworks/models to streamline the university application process. This data is being utilized to establish a database, serving as a basis for the development of AI and ML models. Additionally, the client will provide data for the ML algorithm, ensuring its relevance and up to date. When combined with the data collected from universities and colleges, a comprehensive overview of the university application process will be created. The precision, exhaustiveness, and coherence of the data will be crucial in ensuring the AI and ML models perform optimally and provide accurate recommendations to prospective students, simplifying the decision-making process. The suitability of the data obtained from universities and colleges, in conjunction with the client-provided data, will provide a robust foundation for the creation of efficient AI and ML models to automate the university application process.

**Data Usability:**

The information obtained from universities and colleges is highly useful for the starting stage of creating an extensive database for the website. The collected data, including details about program names, program fees, and application fees, gives a thorough understanding of admission scenarios across various universities and colleges. This data will prove to be extremely valuable in constructing the database for the website, serving as a basis for the creation of AI and ML models in the latter stages of the project.

**Data Ethicality:**

In collecting, utilizing, and storing the data from universities and colleges, we have taken the ethical framework into account. This includes obtaining consent from the institutions for data collection, protecting the data from unauthorized access, usage, or revelation. Additionally, we have ensured that the data will not cause harm, such as by preventing unethical utilization or dissemination of incorrect information. Furthermore, we have ensured that the data is used in a way that preserves the privacy of the individuals and institutions involved, while also adhering to the laws and regulations of the jurisdiction in which the data was collected and used. This involves a careful examination of data security, privacy, and protection concerns, and implementing appropriate measures to use the data in an ethical and responsible manner. By implementing these ethical considerations, the data collected from universities and colleges can be utilized to develop AI and ML models for automating the university application process in an effective and ethical manner.

**5 C’s Ethical Framework:**

* Consent: There was no illegal access to the information when the university and college data were received straight from their websites. The information gathered was useful to the project and the goal of the data gathering was clearly specified.
* Control: Only authorized persons were permitted access to the material, which was kept private and secret. The information gathered was only used for the intended purpose and was not shared with or disclosed to other parties without their express consent.
* Clarity: The goal of the data gathering was made apparent, and the data were relevant to the project. Additional verification and validation procedures were used to address any differences in the data collection, which were accurate and consistent.
* Context: To automate the university application process, AI and machine learning frameworks and models were developed using the data that was gathered. The data was used to build a database that would serve as a framework for the construction of AI and ML models.
* Conflict of Interest: Since the data were taken directly from the websites of the university and colleges, there was no conflict of interest throughout the data gathering procedure.

**Data Sources:**

* <https://ontariotechu.ca/>
* <https://www.uwindsor.ca/>
* <https://www.crandallu.ca/>
* <https://www.yorkvilleu.ca/>
* <https://www.ucanwest.ca/>
* <https://www.algonquincollege.com/>
* <https://www.niagaracollege.ca/>
* <https://www.conestogac.on.ca/>
* <https://www.stclaircollege.ca/>
* <https://www.saultcollege.ca/>