**Data and sample collection:**

We have collected data from foreign students studying is Bangladesh. The dataset contains the current situation of foreign students. This dataset contains 26 columns where each column speaks to a special piece of data about a foreign student. Since every column provides valuable information for satisfaction of dissatisfaction of foreign students so in this paper, we selected all 26 columns. Generally, these columns contain both "satisfied" and "dissatisfied" foreign students’ information. The dataset contains 399 rows and 26 columns based on the following questions, which are shown below.

1. What is your gender?
2. Is it easy to visa processing from your country to Bangladesh?
3. After coming to Bangladesh, are you face any complexity of visa?
4. Is it easy to send money from your country to Bangladesh?
5. Do you feel safe in Bangladesh?
6. Has the government of Bangladesh given you any insurance?
7. Are you satisfied with the accommodation in Bangladesh?
8. Are they Bangladeshi classmates are friendly?
9. Are they Bangladeshi teachers are friendly and helpful?
10. Are they General people of Bangladesh are friendly?
11. Are they Bangladeshi police are helpful?
12. Do you have to pay any tax in Bangladesh?
13. Can you use mobile banking in Bangladesh?
14. In Bangladesh, are you a victim of racial decimation?
15. Do you face any problem with food?
16. Do you face any problem with changing climate?
17. Do you face any political problem?
18. Have you face any corruption?
19. Are you face any problem with the Bangladeshi education curriculum?
20. Are you satisfied with the health service of Bangladeshi hospitals?
21. Do you enjoy the festivals of Bangladesh?
22. Are you face any problem on the first meeting?
23. Can you buy any vehicle in Bangladesh easily?
24. Is there any problem to celebrating the own religion?
25. Have you face sexual harassment?
26. Are you satisfy transport system in Bangladesh?

## Sample of the population

According to (Nworgu, 1991:69) defined sample as the portion of the population that is studied is called a *sample* of the population. For some studies, the population may not be enough to warrant the inclusion of all of them in the study. However, this study may entail a large population, which cannot all be studied.

Using the sample size formula:

n = N/1+N (e) 2

Where:

The Sample of the population of this study stood at 399-survey questionnaire, which is, intended the academic individuals who are given 150 respondents as a sample.

n = Sample Size

N = Population Size or Target Population

e = Standard of error which is 5% or 0.05 of the coefficient variation.

* To find the Sample Size of the Questionnaire;

Then the Population Size N= 399 so that 399/1+399(0.05)2 = 199.75

## Methodology

## In this study, we first focused on two types of factors such "satisfied" and "dissatisfied" foreign students’ information. We then apply supervised machine learning approaches to study each factor types independently. The classification techniques such as ‘decision Trees’, ‘k-Nearest Neighbor’, ‘Support Vector Machine’, and Random Forest.

## Limitation and future work

## Limitation

During the data collection of this study, we have met with several problems such as security challenges, lack of availability of some respondents, and fear of Covid -19. In addition to that, there was a language barrier where some of the respondents could not speak English. Father more; sometimes there was traffic jam while it could not reached to the intended area on time. In rare cases, the weather was not good at all because raining, sunny, or windy. Indeed when conducting data, it is normal to get ready for any form of a challenge from either the environment or the community.

## Future work