An Analysis on Bristol City for incoming international students from India

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2. Data section

There are quite a few datasets needed to be used in this project.

First, Bristol is divided into wards. The geometric boundaries for these wards are found in the official government website: https://opendata.bristol.gov.uk/explore/dataset/wards/export/. This geojson file helps to get started.This data is used to create exploratory maps of Bristol including choropleth maps in further sections. The geojson file is essential to clearly mark the boundaries of the wards of Bristol in the folium maps.

Second, the population data is found in the same website and under ethnicity: https://opendata.bristol.gov.uk/explore/dataset/ethnicity/. This helps with the first project objective. The Indian population for each ward is found with data from this source. This is done by first creating a pandas dataframe with the names of wards and Indian population for each ward. This can then be used in choropleth maps.

Third, the wards are subdivided into Neighborhoods. The data for this is available at: https://en.wikipedia.org/wiki/Subdivisions_of_Bristol. The web scraping technique, Beautiful Soup, is required to get the necessary data. The location data such as latitude and longitude is compiled using Nominatim. A pandas dataframe is created using the name of the neighborhoods scraped from this website and the collected location data.

Fourth, the **Foursquare API** becomes essential to identify the different venues in all the neighborhoods, thereby identifying the most suitable/familiar neighborhoods to Indian students and also identify the university with a better Indian-suited neighborhood. The Foursquare API is used to request venues for all the neighborhoods we found using the earlier steps. These venues are then

used to analyze how suited they are to an Indian student. This accounts for the Project objectives 2,3 and 4.

Finally, Beautiful Soup is used to scrape data for the top 10 tourist attractions in Bristol from this website: https://www.planetware.com/tourist-attractions-/bristol-eng-av-bristol.htm. The location data is compiled using Nominatim. A data frame consisting of all these data is compiled and used to produce folium maps with markers pointing the location of the tourist spots. This data is used to achieve the final objective of the project, which is to map the top 10 tourist spots in Bristol.