**Introduction**

The objective of this project is to find the optimal location to open a new hostel in Bogotá, the capital city of Colombia. Over the last years, Colombia has been highly esteemed by tourists as one of their travel destinations. According to town hall, 12 million people came to Bogotá in 2018 and 54% of tourists came for holiday, recreation and leisure tourism [1]. The number of tourists has been increasing throughout the years, turning tourism into a market niche to take into consideration for potential investors.

Data science is a highly effective tool to study big amounts of data and take out of it useful information that can be used as an advantage. Analyzing a city, its districts, venues and making divisions according to its homogenous and heterogeneous characteristics can be a hard task and maybe even impossible to do with only the naked eye. Therefore, using computational science techniques such as k-means clustering can be useful to study a big city such as Bogotá and make distinctions between its districts.

Bogotá is divided in 20 districts which have a lot of homogenous characteristics. In this project, k-mean clustering and Foursquare data will be used as a way to divide the city districts into homogenous groups that will provide information about which area could be more appreciated by tourists.

**Business problem**

In this project, I focus on the problem of where to open a new hostel in Bogotá city. Imagine company Z wants to open a new hostel in the city and wants to find the best area that will provide their clients with recreation and leisure tourism which includes guided tours and experiencing local tourist attractions such as local restaurants, museums, local shops and night life. Therefore, I have been given the task to provide them with the information needed to take a final decision. The business problem can be summed up in these questions:

- How can the city be divided into clusters with homogenous characteristics?
- Which cluster or area can provide tourists with most of local tourist attractions?
- What are the main venues categories that tourist could appreciate more?

[1] https://www.eltiempo.com/bogota/cuantos-turistas-visitaron-bogota-en-2018-cifras-en-indicadores-de-turismo-347100