

Applied Capstone Project: Visiting Qatar

Background:

Qatar is quickly positioning itself as a leading tourist destination in the Middle East. With its growing tourism economy, as well as hosting the FIFA World Cup in 2022, it is expected to host millions of people from around the world. Just a few years ago, the world has not heard of this tiny, oil rich country. In recent years, it has vastly developed to be a diverse and culture-rich city in the region, thus attracting many expatriates and tourists to the country. As such, many new parks, attractions, museums, restaurants, and hotels have opened to cater to the growing demand.

The Problem:

Foreigners visiting the country have no understanding of the city or key places of interest to see or stay in. Hence, the challenge to resolve is to:

- (1) help tourists visualize the zones and cities in the country,
- (2) gain an understanding of what each area has to offer,
- (3) group them based on their similarities of venues, and finally,
- (4) find hotels to stay in based on their preferences and chosen area.

The Data:

In order to complete this project, I would need data from multiple sources. The first is a list of zones in Qatar. This can be found in the Qatar Open Data Portal. The dataset that has the information we need is called, "Population, Area and Population Density Per Square Kilometers By Zone in April 2015" and can be downloaded as a csv file. Because we are only interested in the zones data, it does not matter that the dataset is a little outdated.

(<https://www.data.gov.qa/explore/dataset/population-area-and-population-density-per-square-kilometers-by-zone-in-april-20/information/>).

We will then use Geocoder from the Geopy library in Python to find the latitude and longitude values of each zone to plot.

Then, we will use the Foursquare API to find the most common venues in each zone to understand what is readily accessible in each, and cluster them based on their similarities.

Lastly, we will use BeautifulSoup4 to scrape Booking.com to obtain the data of hotels in our zone of choice, and compare the hotels available based on their location, star class, rating, and price.