COURSEA IBM DATA SCIENCE CAPSTONE

Where to Set Up Mobile Towers for 5G?

By

B M AZHAR HUSSAIN

PROBLEM DESCRIPTION AND BACKGROUND

Edotco Group is a Mobile Tower Company operating in 8 countries in Asia. Aspiring to be one of the top TowerCos in the world, Like all other tower companies, edotco chooses the best locations for building its mobile towers and rents them Mobile and internet service providers. The bigger the density of an area, the greater the need for data consumption, resulting in higher rental revenue.

edotco plans to have massive expansions of it's mobile tower portfolio and provide greater connectivity over the next few years. Having its head office in Malaysia, edotco is working really close with the local government in implementing the 5G campaign. Malaysia plans to be 5G equipped by 2022 and edotco will be playing a vital role by providing infrastructure support.5G services enable users with really high speed internet and the network setup requires data Transmission equipment to be in very close approximation. The mobile operators are targeting fully enabled 5G services in major public areas to start off with. Places where people would gather the most and require fast data services. Edotco is planning to carefully choose locations to set up it's 5G equipment so that high rental income can be charged.

The objective of this project is to figure out the best locations for Edotco Tower Company Ltd to deploy its 5G towers in Kuala Lampur. Using Data science techniques like clustering, this project can guide Edotco Management committee to decide on which locations to choose for 5G investment. Particularly targeting the shopping centres around kuala lampur,

DATA USED AND SUMMARY METHODOLOGY

The following data will be used to solve this problem:

1. List of neighborhoods in kuala lampur,
2. Location coordinates of these neighbourhoods
3. Venue data, particularly shopping centres.

Source of data will be wikipedia .
https://en.wikipedia.org/wiki/Category:Suburbs_in_Kuala_Lumpur lists the neighbourhood in Kuala Lampur. Following this we will log in to our Foursquare API to gain information regarding shopping centres and restaurants to help us solve our queries.
First We will use scraping methods to gain data from this page. Then find out the latitude and longitude coordinates of these neighbourhoods using Python Geocoder package. After this, we shall be using various data science methods such as data cleaning, wrangling, k-means clustering, map visualization etc to come to a conclusion. Detailed methodology will be explained in week 2 section.