**A Comparison of Locations in the Washington DC Metro Area**

A Report for the Applied Data Science Capstone course on Coursera by IBM

**Introduction/Business Problem**

Company ABC's office is located in Alexandria, VA, just outside of Washington DC. The company is happy with the location of its office, however now that their office lease is ending and the company has recently grown in size, they are in a position where they need to leave their current office space. While looking for new office space, they do not want to be limited by only what is available in Alexandria, so they want to look into what nearby areas would be similar as other options. These locations need to be within the Washington DC Metro area, to ensure that current employees will not need to relocate to be close to the office.

Company ABC’s requirements are as follows:

(1) They want the area to be similar to Alexandria, VA.

(2) They are limiting locations to the DC Metro area (or the DMV, DC-Maryland-Virginia).

In order to solve this problem, we will leverage information about the types of locations in different areas around the DC Metro area to determine which locations will fit Company ABC's needs.

**Data**

In order to determine locations that Company ABC may want to consider, we will limit our search to counties in the DC Metro area. A list of counties in this area has been found [here](https://en.wikipedia.org/wiki/Washington_metropolitan_area#Composition). Additionally, we will need the geographic coordinates of each of these counties in order to leverage location data. We use [this table](https://en.wikipedia.org/wiki/User:Michael_J/County_table) of US counties, which includes coordinates, to get this information: Finally, we will use the Foursquare API to find nearby venues to each of the county coordinates we have obtained. This will be used to solve our initial problem by determining which counties are similar in terms of types of venues.