**Capstone Project – The Battle of Neighbourhoods**

**Applied Data Science Capstone by IBM/Coursera**

**Introduction: Business Problem**

Humans are always looking to make the right choices, especially, when it comes to big future-defining decisions. Being an immigrant myself, I’ve spent sleepless nights and long days weighting in our family’s choice to move to Canada. Eventually, I’ve met many people who were “in the same boat” and it turned out that we share a lot of common expectations, needs and that similar factors impact our final choice. That is why I chose to explore downtown Ottawa, Canadian Capital as a destination of choice to a lot of immigrants that I know. Setting aside such obvious factors as bilingualism of the area, convenient geographical location (Ottawa is almost equally distant from Toronto, Quebec City and New York, just some 4 hours drive!), I wanted to take a closer look at its social and economical aspect. My target audience are Eastern European people making their final choices between Canadian cities and towns. These people are usually couples or young families coming from big cities, they like to go out for lunch with friends, are well educated and know what they want from life. Also, newcomers prefer to settle in downtown areas which provide good transportation and access to most jobs and enable them to get the best feel of history and culture. Hence, in this project we will be looking at downtown Ottawa City Hall area.

**Data:**

We will use our data powers to generate several types of results. One of them is the housing trend. Are the Ottawa house purchase prices increasing or declining over the course of time? What about rent costs? This a very important question since shelter is a basic human need and we need to see if it’s worthwhile to buy or rent right now. COVID-19 has impacted many lodging trends worldwide, so let’s take a closer look at what would be the best option for the savings our newcomers would bring along to Canada. Also, we’ll use Foursquare to determine how many restaurants are in the area and what are the local places of interest. Also, we’ll look at schools since newcomers often choose to obtain Canadian certificate as an addition to their native degree or, in case if they have kids, we’ll need to make sure a variety of schools is available in the downtown district. We’ll come of with results that will help in deciding if Ottawa is an appropriate solution for people with background as described above.

Based on definition of our problem, factors that will influence our decision are:

* House price tendency for the past 20 years
* Rental costs for the past 4 years for 1-, 2- and 3-bedroom accommodations
* Number of restaurants in the area
* Number of places of interest in the area
* Number of schools in the area

Following data sources will be used to extract/generate the required information:

* <https://foursquare.com> API for lists and geographical location of schools, restaurants and entertainment venues in Ottawa city center, data will be displayed on the maps and in tables
* <https://www.agentinottawa.com> for accommodation purchase price tendencies for the past 20 years, data will be displayed on the plot
* <https://www.zumper.com> for accommodation rent costs dynamics since 2016, data will be displayed on the plot