

Title: Determining the most effective neighbourhood to fight COVID-19 in New York City, USA

Introduction and Motivation:

New York is the worst hit city in the world, in terms of number of active cases and deaths due to the prevailing coronavirus pandemic in the world. The population density and challenges of law enforcement make the general population even more vulnerable to the deadly virus. I have undertaken this project to try coming up with a neighbourhood within New York that could be effective in combating the COVID-19 virus. The idea is to deploy the skillset I have acquired during the IBM Professional Certificate in order to tackle the epicentre of a major global crisis.

Business Problem:

As of now, it is clear that the state of New York is the worst hit by coronavirus in the world. To put things in perspective, currently, the state of New York has a whopping 295,000 confirmed cases and 17638 deaths, a significant proportion of which (12509), have happened in New York City. Therefore, as a matter of fact, it is critical to curtail the spread of the virus in New York City. This could bring the death toll down in New York State as well as the USA, which is the new COVID-19 hotspot of the world.

The problem gets compounded by the fact that the New York Medical Infrastructure is under immense strain due to the lack of hospital beds and the ever increasing number of patients requiring hospitalization. As a start, through this project, I intend to determine or identify the neighbourhood that is the best prepared to fight the pandemic.

This is proposed to be done by calculating the highest ratio of hospital beds per person in each neighbourhood of New York City. This would in turn give deeper insights into managing the limited and dwindling resources and also Personal Protective Equipment (PPEs) which are critical for the safety of the brave doctors and nurses. The resources of the neighbourhood with relatively better capacity could be deployed in the worst affected neighborhoods, thereby focusing efforts and attention towards the key COVID-19 hotspots.

Data Collection Plan:

The data shall be acquired/fetched from following sources:

- *New York City data that contains borough, neighborhoods along with their latitudes and longitudes (Data source: NYC data set) https://cocl.us/new_york_dataset*
- *The population data will be obtained from Scraping Wikipedia (Data source: Wikipedia page of [NYC neighbourhood](#))*
- *Each of the links of neighbourhood will be accessed to obtain the population figures for each of them*
- *The Hospital data (location coordinates etc.) shall be fetched from foursquare API. Data source: Foursquare API*
- *Hospital bed information shall be fetched from NYS Health Profile website. Data source: <https://profiles.health.ny.gov/>*

