

**THE BATTLE OF NEIGHBORHOODS**  
**CORONA VIRUS OUTBREAK ANALYSYS**

a Capstone Project Report by

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## **Introduction:**

### **Problem Background:**

- In late 2019, a novel coronavirus, now designated SARS-CoV-2, was identified as the cause of an outbreak of acute respiratory illness in Wuhan, a city in China.
- In February 2020, the World Health Organization (WHO) designated the disease COVID-19, which stands for coronavirus disease 2019.
- Since the first reports of COVID-19, infection has spread to include more than 80,000 cases in China and increasing cases worldwide, prompting the WHO to declare a public health emergency in late January 2020 and characterize it as a pandemic in March 2020.
- The rate of new infections outside of China has surpassed that within China as epidemics have grown in other countries.
- The possibility of COVID-19 should be considered primarily in patients with fever and/or lower respiratory tract symptoms who have had recent close contact with a confirmed or suspected case of COVID-19, who reside in or have recently (within the prior 14 days) traveled to areas where community transmission has been reported (eg, China, South Korea, most of Europe [including Italy], Iran, Japan) or who have had potential exposure from specific settings where COVID-19 cases have been reported.

### **Problem Description:**

Suppose we travel to some country for some vacation or business purpose. In such a situation, we would not know whether that country is inflicted by this deadly virus. Even if that country or city is not affected, it might be affected in the near future due to the nearby countries or cities. As a summary, this problem can be asked in the form of questions as follows:

- How many countries are affected by the virus?
- Does the country where I want to go affected?
- Do the nearby countries are affected?
- Are the unaffected countries being followed with healthy and safety measures?

The recommendation system which I have modelled will recommend the safest country where we can go for businesses or vacations.

## **Data:**

To understand and explore, we will need the source data for coronavirus and the latitude and longitude data for the countries. These data can be obtained from the following mentioned links.

- **Coronavirus Source Data:** <https://ourworldindata.org/coronavirus-source-data>
- **Latitude and Longitude Data:** <https://www.kaggle.com/parulpandey/world-coordinates>