**Predicting the Ideal Restaurant Location in Toronto**

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July 5th, 2020

1. **Introduction**
   1. **The Background**

Toronto, being the most populous city in Canada, is an astonishing and prime location not only for the financial sector but also for tourism. Toronto, being Canada’s leading destination for tourism and welcome to over 27 million people each year, is the prime location for restauranteurs. Being that this location boasts superb attractions like that of music, sports, and other events; this city is the perfect place to open a restaurant. The importance of restaurants to the city of Toronto is great and only continues to grow as food is and has always been the center of all great and growing cities. As such, each new restaurant brings its own unique value to the city, both for the economy and for the restaurant owners themselves. Therefore, it is advantageous for potential restaurant owners to accurately predict where exactly in the city of Toronto would be the best place to open a restaurant. For example, this information can be used to target boroughs in which potential owners can place restaurants.

* 1. **Problem**

Data that might contribute to determining the best borough in Toronto to open a restaurant might include which areas have the highest rated restaurants, the highest amount of foot traffic/ greatest accessibility, greatest affordability, and lowest crime rate. The project aims to predict whether a restaurant that is placed in a certain area will thrive based on these data.

* 1. **Interest**

The likelihood that restaurateurs, future restauranteurs, and investors would be interested in the accurate prediction of where exactly in the city of Toronto would be best to open a restaurant is very high. This is because opening a restaurant in a prime location would likely guarantee more foot traffic to the restaurant and therefore more money. Others who are interested in dining at the best restaurants in the city may also find this information to be beneficial.

1. **Data Acquisition and Cleaning**

2.1 **Data Sources**

Most statistics for crime can be found using the Toronto police maps and the statistics regarding restaurant rating, and affordability can be found using the data from foursquare. The amount of foot traffic received in each area can be found using the pedestrian foot traffic at intersections map of Toronto. The Toronto police maps data set however, is currently lacking data for certain years because the stats stop at 2019. To supplement this data, a 2020 homicide map from the Toronto city news was used to help determine which areas still have high rates of dangerous crime.

2.2 **Data Cleaning**

The data was

2.3 **Feature Selection**

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1. Exploratory Data Analysis
2. Predictive Modeling
3. Conclusions
4. Future Directions