

# Capstone Project – Battle of Neighborhoods (Part 1): Determining the top Japanese Restaurants in Toronto using K-means clustering method

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## INTRODUCTION

Toronto is by far the largest city in Canada with a population of 2,731,571, based on 2016 census conducted by Statistics Canada, which has seen an increase of 4.5% in population growth since 2011. Being a provincial capital of Ontario, Toronto is geographically located on the north-western shore of Lake Ontario.

Major districts in Toronto include Downtown, Central, East, West and North Toronto that are used to be those of the Old Toronto, and the result of amalgamation and expansion has seen inclusion of surrounding districts, such as East York, Etobicoke, North York, York, and Scarborough. Toronto Pearson International Airport is located at Mississauga, a suburban municipality adjacent to Etobicoke.

The city of Toronto is considered as an important international business and financial center in Canada where its economic strength is underscored by the Toronto Stock Exchange, the 7<sup>th</sup> largest stock exchange bourse in the world by market capitalization.

Toronto is home to a sizeable minority groups of diverse ethnic origins stemmed from active immigration from different parts of the world since 1980s with more than 150 different languages spoken and therefore, this city is recognized as one of the most cosmopolitan and vibrant cities in North America.

According to an article written by Corey Mintz in Globe and Mail dated 3 January 2020, Japanese cuisine has blossomed in cosmopolitan Toronto since 2012, picking up the trend from Vancouver, where Japanese businesses have been flourishing and expanding to Toronto, taking advantage of its bigger market. In recent years, Toronto has seen Japanese izakaya groups such as Guu and Kingyo set up business, with former employees breaking off to open places such as Imanishi and Ramen Ishin.

## BUSINESS PROBLEM

This study will focus primarily on the needs of a specific target group, namely - business travellers, tourists and short-term visitors to Toronto who are not familiar with the city and are looking for general recommendations on Japanese restaurants to dine-in.

Hence, the objective of this study is to provide reliable and well-researched information in addressing the requirements of the above-mentioned target group outlined as below:-

- a. List of Japanese restaurants in Toronto.

- b. Neighborhoods in Toronto that have a significant presence of Japanese restaurants and the neighborhood that has the highest number of Japanese restaurants.
- c. Ranking of the Japanese restaurants in Toronto based on customers' experience.
- d. Recommendation on the top 3 Japanese restaurants in Toronto.

By and large, this study will endeavor a novel approach of applying data science and machine learning techniques, which is the showcase of this capstone project, to achieve its objective.