

# **The Battle of Neighborhoods**

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## **1. Introduction**

### **1.1. Background**

For many first-time restaurateurs, it all begins with an idea: A lively restaurant inspired by food eaten on a recent trip or a secret family recipe. But having a good idea or cooking skills are just a small part of surviving and thriving in an industry notorious for high competition and failure rate. Among the many considerations, location can make or break a restaurant. Being able to recommend good locations for opening a certain type of restaurant is a functionality that would be very useful for new restaurant owners. In this paper, I aim to build a model that recommends locations to a restaurateur looking to open a Japanese sushi restaurant in the Toronto area.

### **1.2. Problem Description**

The objective of this Capstone project is to provide a ‘Yes/No’ recommendation on Toronto neighborhoods based on whether they are ideal for a Japanese sushi restaurant. By using data science and machine learning methods such as clustering, this project aims at providing solutions to answer the business question: in Toronto, if an entrepreneur wants to open a Japanese sushi restaurant, where should he/she consider?

Several factors need to be studied to recommend a location:

- Whether location is a prime location.
- Restaurant competition in the neighborhoods – are there any existing Japanese or Sushi restaurants nearby?
- Would a Japanese restaurant “fit in” with the location – e.g. we wouldn’t want to open a Japanese restaurant next to a freeway, rail, airport or around fast food restaurants.
- Nearby attractions – how accessible is it to potential customers.

The problem is modeled to predict a yes/no recommendation based on the above factors.

### **1.3. Target Audience**

Entrepreneurs looking to open a Japanese sushi restaurant in Toronto, Canada

### **1.4. Success Criteria**

The goal of the project is to create an observation table and a visualization map showing all Toronto neighborhoods together with a score and ‘Recommend: Yes/No’ next to each neighborhood. The success criteria are to provide a good recommendation on neighbourhood choices for opening a Japanese sushi restaurant.