# Introduction

Toronto is the largest city in Canada with apartment rental rates among the highest in the country. The rental market can be competitive and fast moving, requiring rental decisions to be made quickly. There may not always be time for prospective renters to explore areas in which they are considering renting. Furthermore, it may be difficult to evaluate value of a rental given the size and diversity of the market.

This project aims to develop a tool to estimate rental cost based on information about the apartment itself as well as the amenities in the surrounding area. Such a tool could be used by prospective renters to compare the expected price to the asking price and aid in making rental decisions.

# Data

The rental data used in this project come from the data set [here](https://www.kaggle.com/rajacsp/toronto-apartment-price). It is a 2018 data set that includes:

* number of bedrooms,
* number of bathrooms,
* den,
* address,
* latitude,
* longitude, and
* price

of 1124 rental apartments. In addition to the data about the apartments themselves, Foursquare location data is used to evaluate the desirability (and therefore rental price) of an area based on the prevalence of restaurants in that area. For each area, the top 100 venues along with the venue category and coordinates were pulled from Foursquare. This data set included 194 unique venue categories (e.g. park, sandwich place, tech startup, etc.). After review of the categories, restaurants were considered to be any venue category containing the keywords:

* Restaurant
* Joint (e.g. ‘BBQ Joint’)
* Place (e.g. ‘Taco Place’)
* Coffee Shop
* Spot (e.g. ‘Breakfast Spot’)

Restaurants were used as a proxy for desirability assuming that areas with a larger number of restaurants in their top 100 venues would be more desirable.