

Analyzing the various regions in New Brunswick for Starting a Restaurant

Applied Data Science Capstone Project

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Introduction

New Brunswick is one of the 13 provinces in Canada and is part of the three Maritime provinces and included as one of the four Atlantic provinces. In recent years, the province has attracted a critical mass of businesses in sectors such as advanced manufacturing, cybersecurity, and digital health, among others. This would invariably attract further participants, both customers and other businesses alike, leading to great opportunities and realization of potential. Thus, I have chosen to focus on New Brunswick to understand and explore potential opportunities that can be obtained using machine learning techniques and the Foursquare API.

Given that there is an expected growth in population and economy through the development of New Brunswick, I plan to focus on finding a suitable location to operate a convenience store. Thus, the goal of this project is to use the Foursquare location data and K-Means clustering technique of the venue information to determine the ideal location in New Brunswick to open a convenience store.

Data Acquisition

As performed in the previous assignments, I have obtained the postal code and the associated Forward Sortation Area (FSA) via Wikipedia, and after standard editing practices, used the *urllib* module to obtain the location data, i.e., the latitudinal and longitudinal data, for each of the FSAs obtained. We make use of FSAs as a substitute for major centres since they are more structurally ideal to cover most of the active regions in New Brunswick.

After this, we use the *Nominatim* module to obtain the location data of New Brunswick. Finally, we make use of the Foursquare API to obtain the frequently visited venues in proximity to each of the FSA location, with which we perform our analysis.