Applied Data Science Capstone Project

The Battle of Neighbourhoods



Analysis of Neighbourhoods and Demographics of Calgary, Alberta, Canada.

A description of the problem and a discussion of the background.

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Discussion of the background

**Calgary** is a city in the western Canadian province of [Alberta](https://en.wikipedia.org/wiki/Alberta). It is situated at the confluence of the Bow River and the Elbow River in the south of the province, in an area of foothills and [prairie](https://en.wikipedia.org/wiki/Canadian_Prairies), about 80 km (50 mi) east of the front ranges of the Canadian Rockies, roughly 299 km (186 mi) south of the provincial capital of [Edmonton](https://en.wikipedia.org/wiki/Edmonton) and approximately 240 km (150 mi) north of the [Canada–United States border](https://en.wikipedia.org/wiki/Canada%E2%80%93United_States_border). The city anchors the south end of the [Statistics Canada](https://en.wikipedia.org/wiki/Statistics_Canada)-defined urban area, the [Calgary–Edmonton Corridor](https://en.wikipedia.org/wiki/Calgary%E2%80%93Edmonton_Corridor).

The city had a population of 1,285,711 in 2019, making it Alberta's [most-populous city](https://en.wikipedia.org/wiki/List_of_cities_in_Alberta#List) and the most-populous in [western Canada](https://en.wikipedia.org/wiki/Western_Canada). In 2016, Calgary had a metropolitan population of 1,392,609, making it the [fourth-largest](https://en.wikipedia.org/wiki/List_of_census_metropolitan_areas_and_agglomerations_in_Canada) census metropolitan area (CMA) in Canada and second-largest in western Canada (after [Vancouver](https://en.wikipedia.org/wiki/Vancouver)).

The downtown region of the city consists of five neighbourhoods: Eau Claire (including the Festival District), the Downtown West End, the Downtown Commercial Core, Chinatown, and the Downtown East Village (also part of the Rivers District). The commercial core is itself divided into a number of districts including the Stephen Avenue Retail Core, the Entertainment District, the Arts District and the Government District. Distinct from downtown and south of 9th Avenue is Calgary's densest neighbourhood, the Beltline. The area includes a number of communities such as Connaught, Victoria Crossing and a portion of the Rivers District. The Beltline is the focus of major planning and rejuvenation initiatives on the part of the municipal government to increase the density and liveliness of Calgary's centre.

The city of Calgary is diverse in terms of culture, ethnicity, religion which implies there is diversity in terms of venues people like to visit and spend their leisure time.

Description of the problem

The objective of this capstone is analysing the population distribution in the city of Calgary as well as use the Foursquare API to analyse neighbourhoods in Calgary. Using Data Science Methodology and Machine Learning technique Like K Means Clustering this project aims to provide solutions to the question “How similar are neighbourhoods in terms of venues visited?”. We will also be able to suggest most frequently visited venues for every neighbourhood.

Target Audience

The project will come in handy to anybody who wishes to analyse the population distribution in the city of Calgary. Anyone who wishes to move to the city can look through the project to figure out the neighbourhood they would like to settle in as well the venues they will have access to.