

Market Segmentation Analysis using Machine Learning and Geo-Location data

Identifying the best location to open a new restaurant
Calgary, Alberta, Canada

Introduction

- For a business, location is the key to successful operations and overall growth. “Location, location,location!” That’s the famous saying used to express the importance of location. A business’s success is partially, if not mostly, dependent upon the business’s location. Having the best possible location is vital.
- Market segmentation is the process of dividing businesses into coherent subgroups.It is one of the most fundamental strategic marketing concepts. The better the segment(s) chosen for targeting by a particular organisation, the more successful the organisation is assumed to be in the marketplace
- Market segmentation can be performed with different segmentation bases, which are a set of input variables that the segmentation is based on. These variables can be categorized as general or product specific.

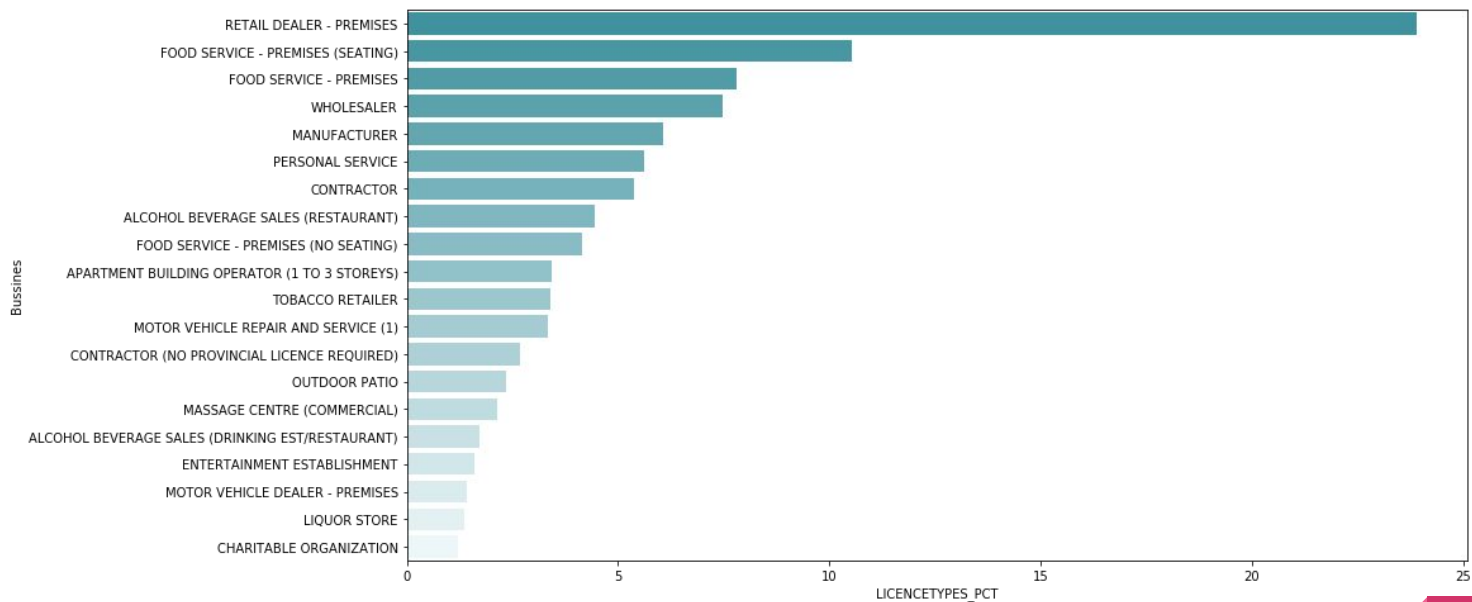


Data acquisition and cleaning

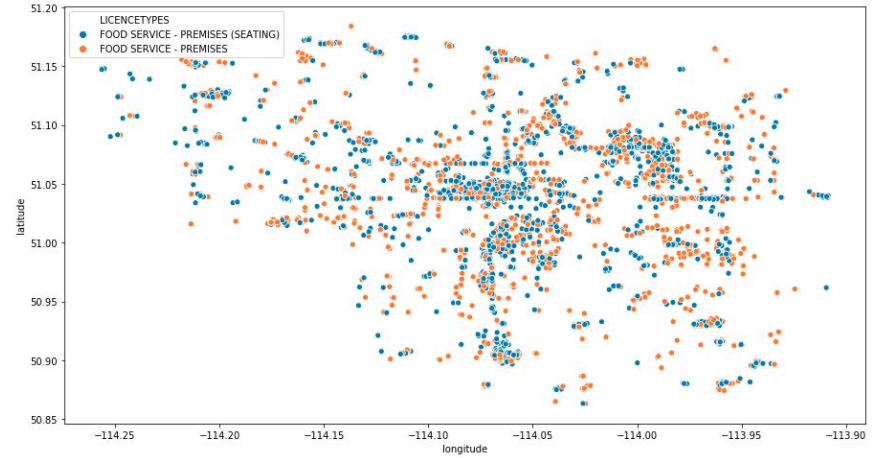
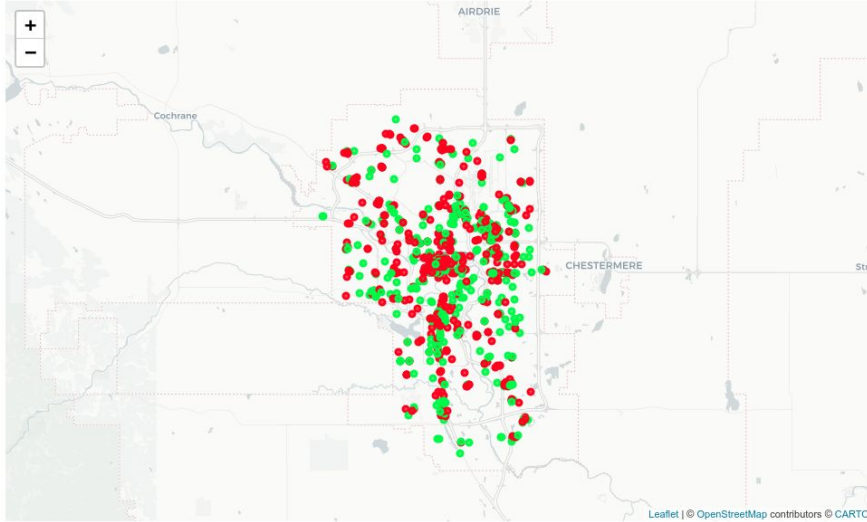
- Calgary Business Licenses Renewal ([City of Calgary open data portal](#))
- Neighbourhood boundaries in GeoJSON format ([City of Calgary open data portal](#))
- Foursquare API ([source](#))
- Duplicate, highly similar or highly correlated features were dropped.
- Cleaned data contains 6 features.
- Missing data were replaced by appropriate Values
- GeoPandas were used for Geospatial analysis



Popular Business Categories



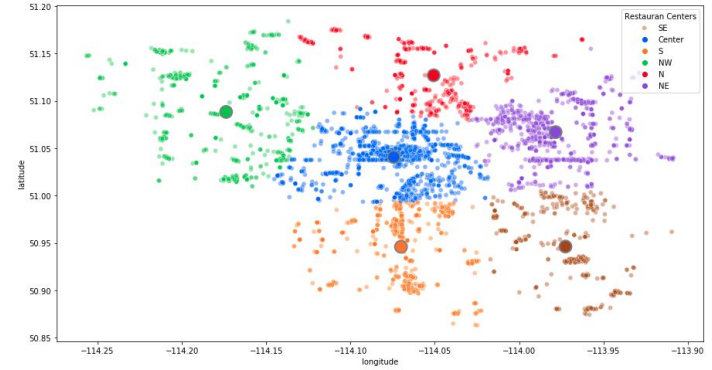
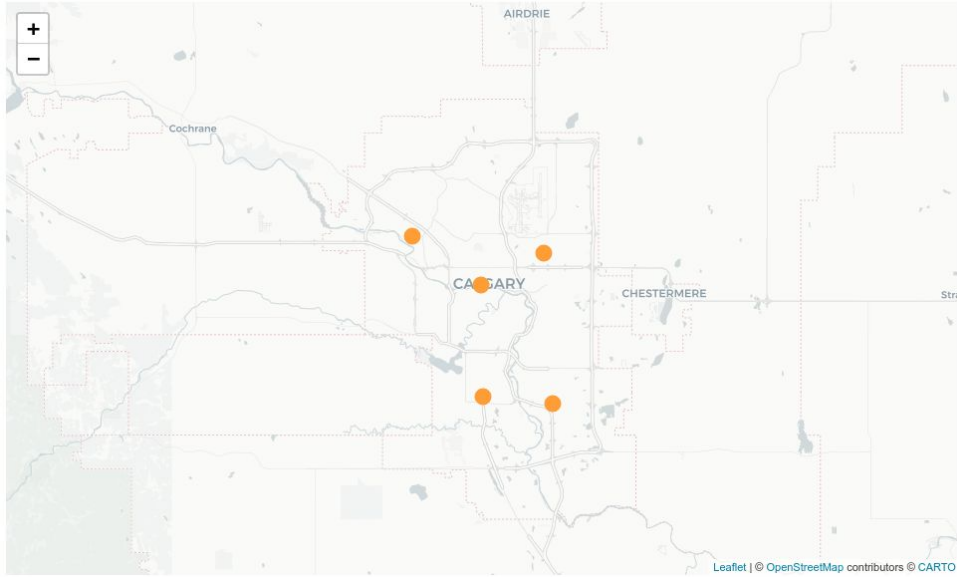
Food Service Businesses



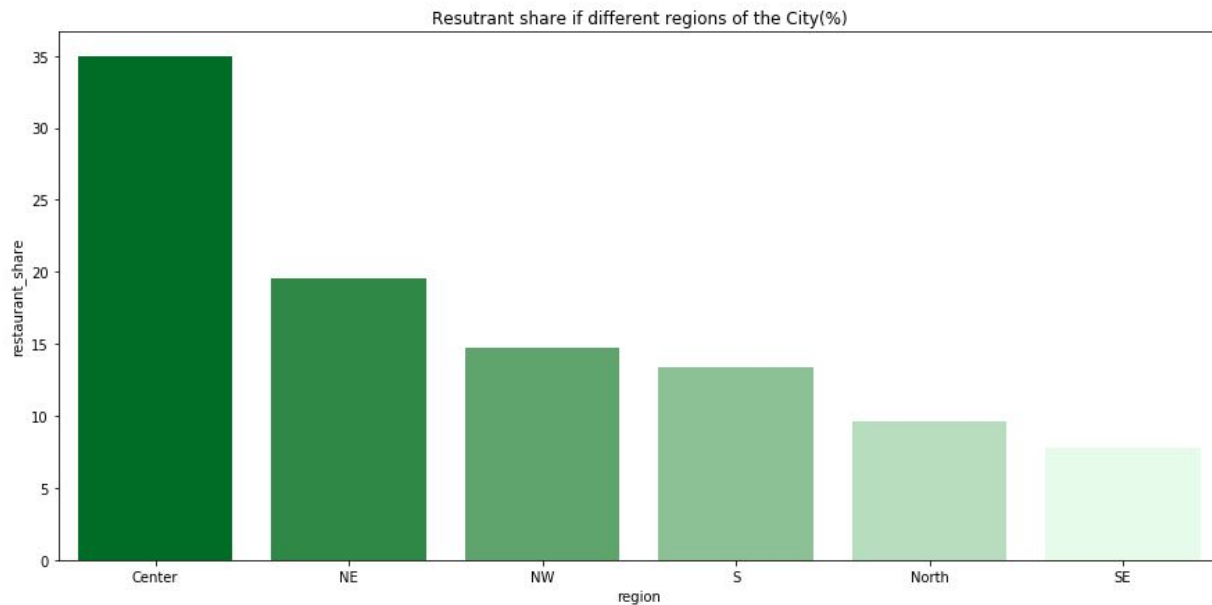
Main food Categories:

- SEATING
- Service Premises

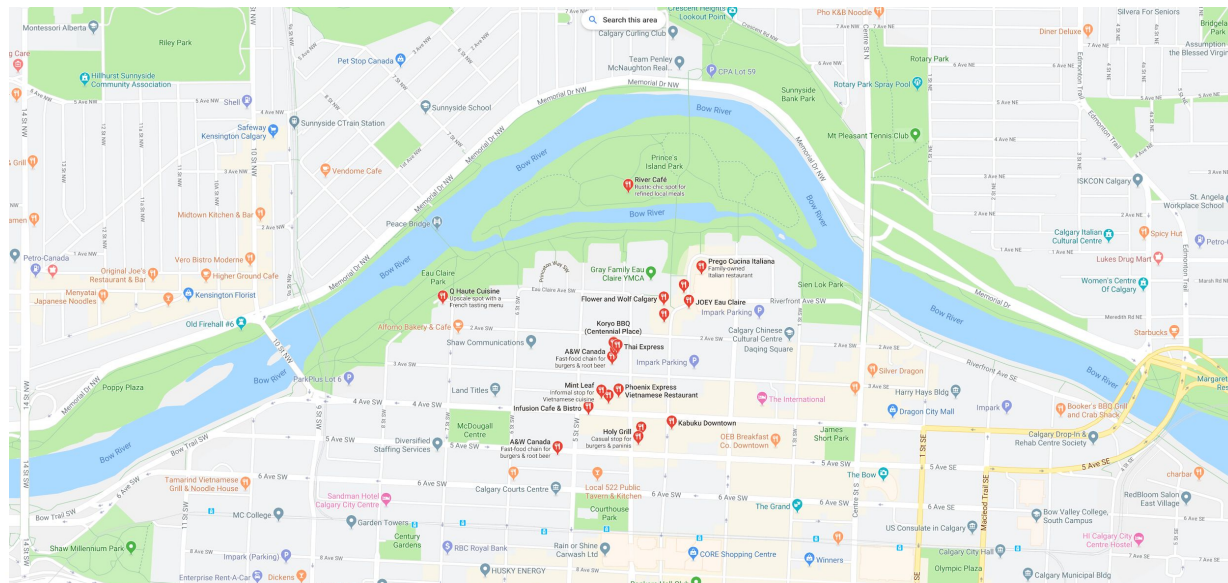
Site selection



Market Share Per Region

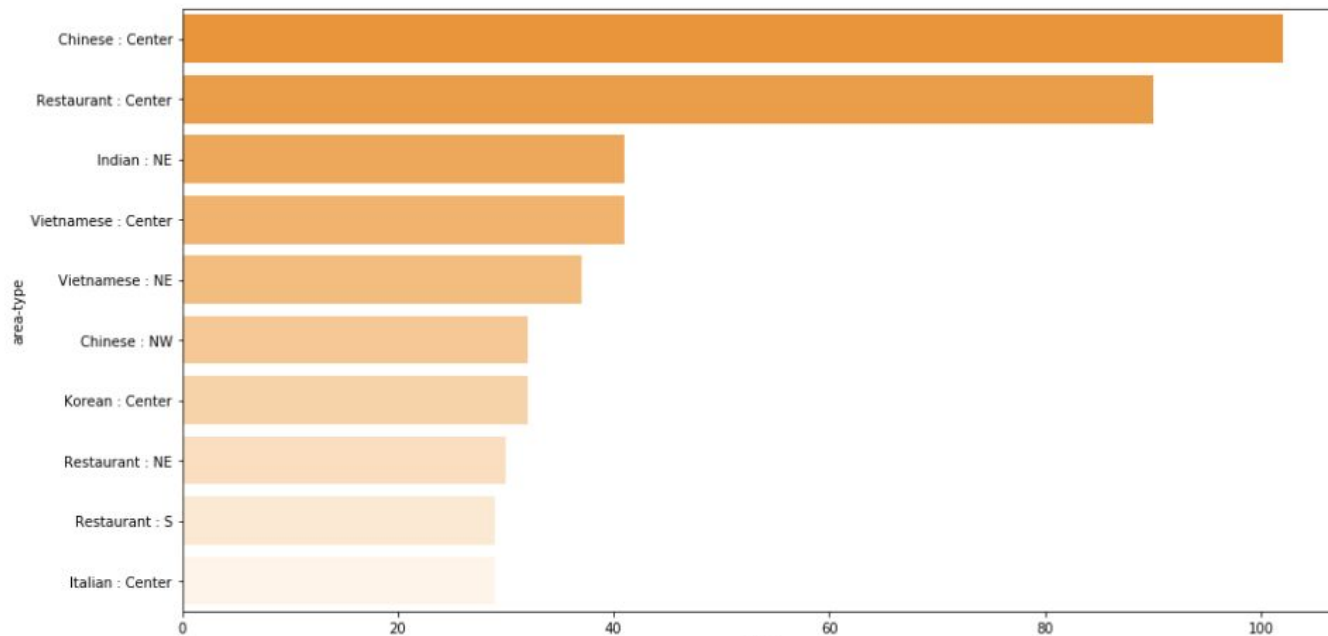


Recommended Locations



Area	Latitude	Longitude	Popularity Rank
Center	51.051511	-114.073327	1
North West	51.094039	-114.169078	2
North East	51.079709	-113.987043	3
South	50.954995	-114.070993	4
South East	50.948672	-113.974758	5

Popular restaurant Categories



Restaurant popularity per region

Area	Restaurant Category
Center	Chinese
	Vietnamese
	Korean
	Italian
	Indian
North East	Indian
	Vietnamese
	Restaurant
	Fast Food
	Breakfast
	Chinese
North West	Chinese
	Fast Food
	Restaurant
	Vietnamese

Site Selection by Market Share

Area	Latitude	Longitude	Market Share (%)
Center	51.042511	-114.083327	42
North East	51.095039	-114.279078	23
South	51.089719	-113.977143	12
North West	50.964995	-114.170993	11
North	50.948672	-113.975758	8
South East	50.947673	-113.874758	5

