
Location for a burger joint

— Regina Fonseca Ávila —
Applied Data Science Capstone - IBM

04/18/2020

Business problem

A young man wants sell hamburgers.

What is the best location to open his business?

He has already chosen 2 regions:
neighborhoods of two universities

We will help him.

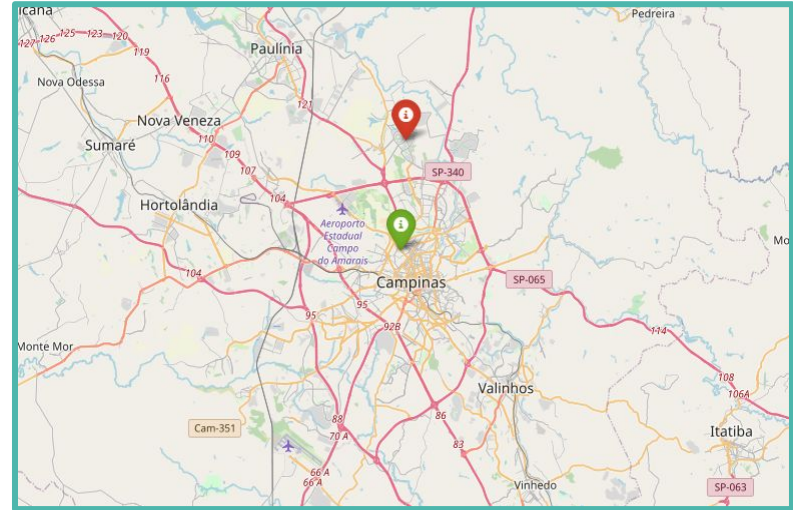


Where?

Campinas, São Paulo, Brazil

UNICAMP: Universidade Estadual de Campinas or

MACKENZIE: Universidade Presbiteriana Mackenzie

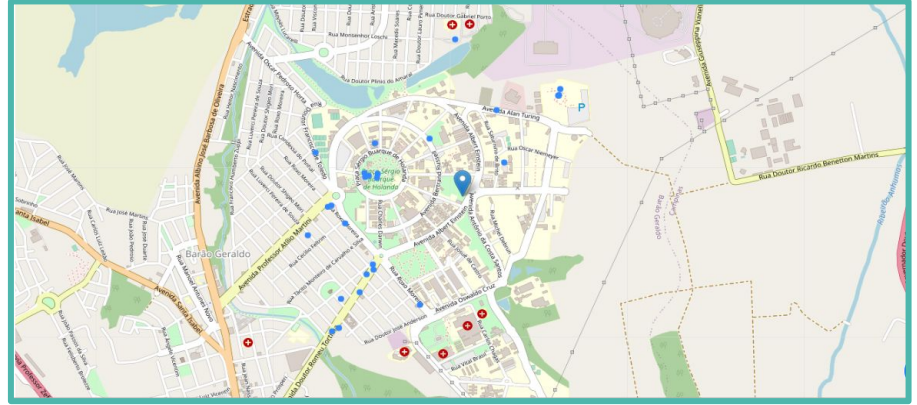


Restaurant locations

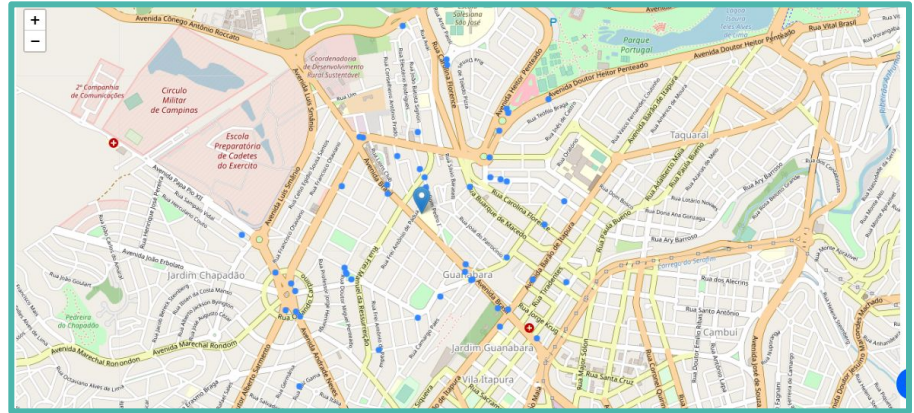
Foursquare API to search
selected categories of
restaurants



Unicamp



Mackenzie



Exploratory data analysis

Number of restaurants in each neighborhood

Number of burger joints in each neighborhood

Percentage of burger joints

Number of restaurants by category

Density of restaurants in each neighborhood

Mean distance to university/Histogram of distances to university

Heatmap



Number of restaurants and % of burger joints

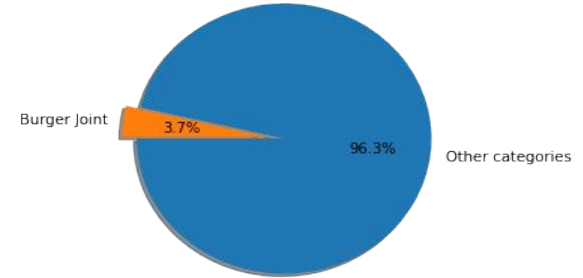
Unicamp
27

Mackenzie
50

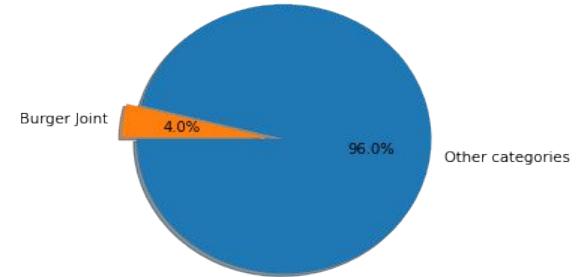
The percentage of burger joints is small in both neighborhoods



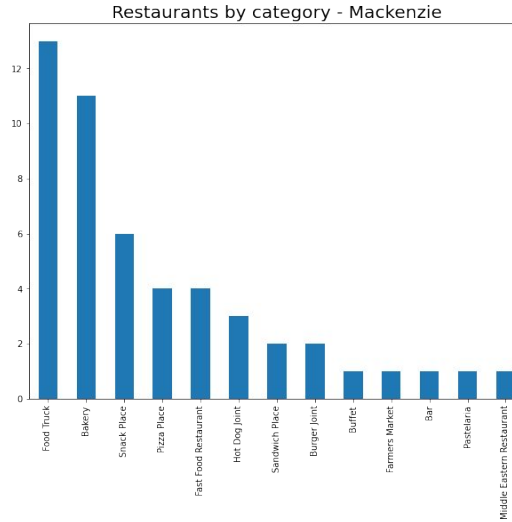
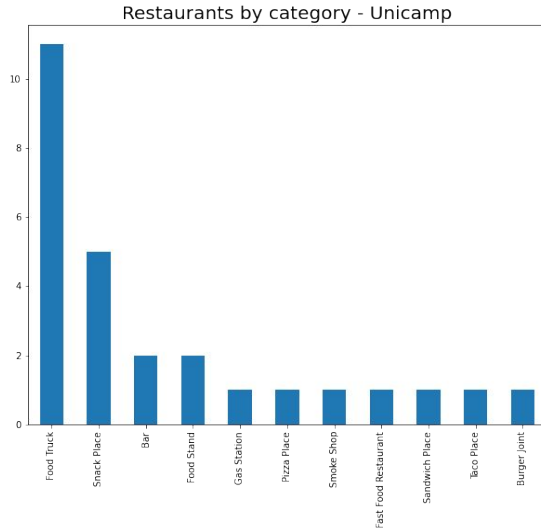
Percentage of burger joints: Unicamp



Percentage of burger joints: Mackenzie



Number of restaurants by category



In both neighborhoods the most popular category is Food Truck. But the second most popular category near Unicamp is Snack Place and near Mackenzie is Bakery.

Density of restaurants and mean distances

Unicamp

5.61

restaurants/Km2

The difference between density of restaurants is large but the difference between mean distances from universities to restaurants is small.

Unicamp

798.67

m

Mackenzie

8.67

restaurants/Km2

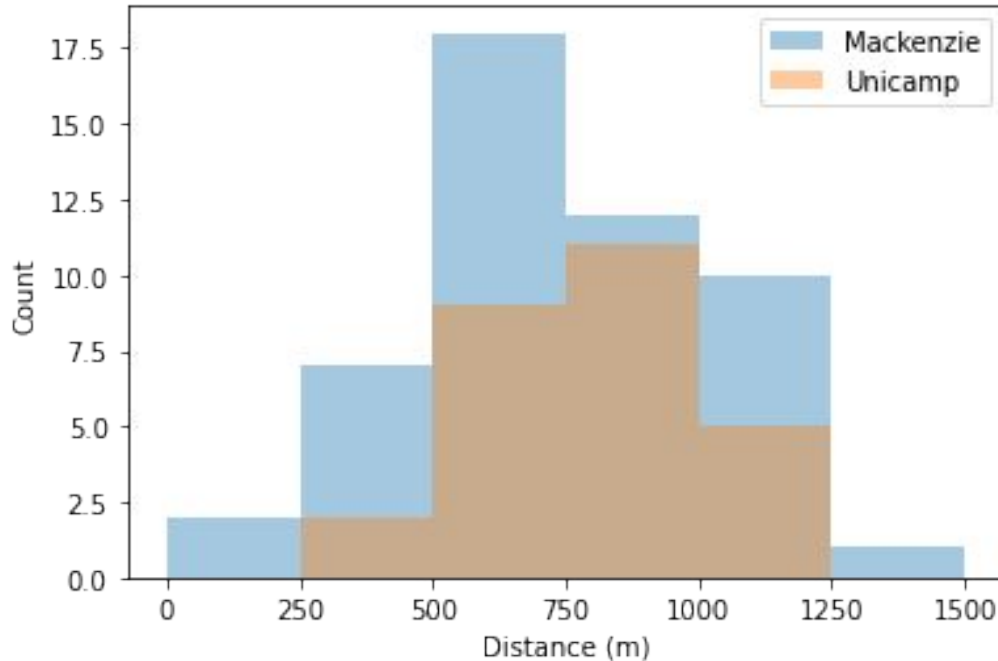


Mackenzie

722.74

m

Histogram of distances to university



- Unicamp: The biggest number of restaurants between 500 and 1000 m. No restaurants between 0 and 250 m.
- Mackenzie: The biggest number of restaurants between 250 and 1000 m.

Heatmap

Unicamp



Mackenzie



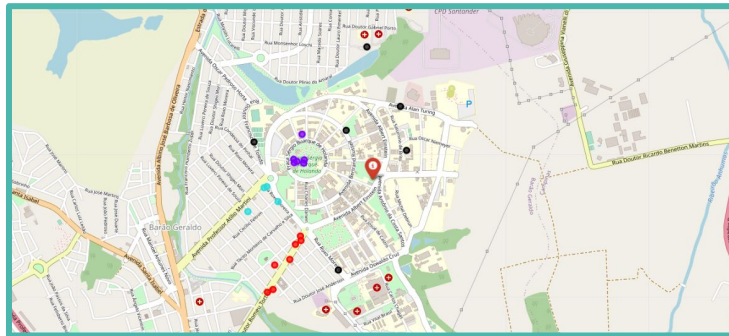
Clustering: DBSCAN

- Only geographical coordinates
- It help us to find areas with a low number of restaurants.

Unicamp
4 clusters
6 outliers

Mackenzie
5 clusters
9 outliers

Unicamp



Mackenzie



Black circles: outliers

Conclusion

Take into account the number of restaurants, the number of burger joints, the percentage of burger joints, the density of restaurants and dbscan result in each neighborhood, we conclude Unicamp's neighborhood is the best area to open a burger joint.

The arrow shows our suggestion of location for a burger joint.



Unicamp

