

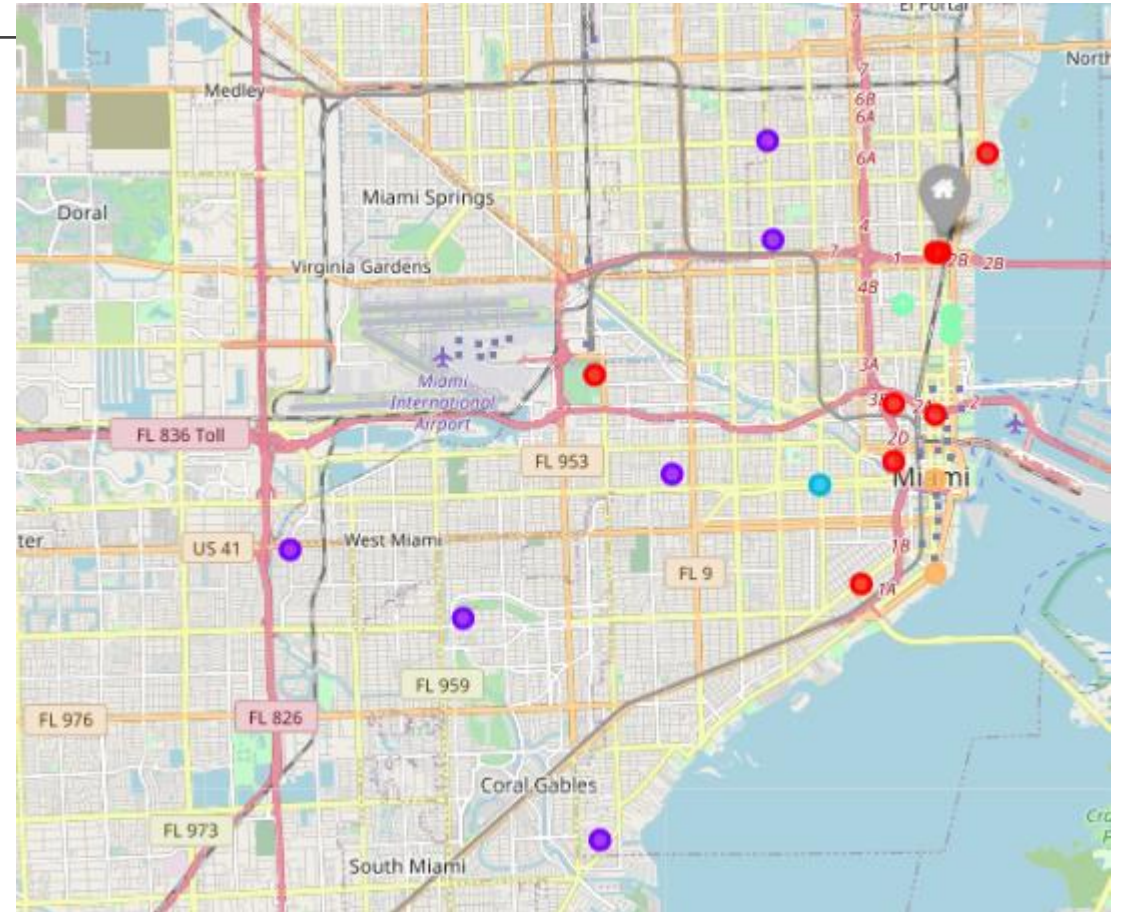


FINDING A NEW HOME

A MIAMI NEIGHBORHOODS ANALYSIS TO
IDENTIFY THE BEST NEIGHBORHOOD FOR A
BISTRO BRANCH

THE BISTRO

- My theoretical bistro is called Mandau Bistro, and it's located in the Designers district neighborhood, in Miami, FL;
- In this exercise, the bistro is constantly busy and now needs to open a new branch in the city, in order to be able to keep serving its audience;
- Current bistro is the Gray-Home dot in the map.



THE DATA

- In order to achieve this analysis, following data will be used:
 - **Foursquare API:** with that, it will be possible to analyze the types of venues in each neighborhood;
 - **List of Miami Neighborhoods:** with that list, it's possible to locate the neighborhoods geographically and even cluster them by it's population and density.

Neighborhoods in Miami^[2]

Neighborhood ↕	Demonym ↕	Population 2010 ↕	Population/ Km² ↕	Sub-neighborhoods	Coordinates ↕
Allapattah		54,289	4,401		25.815,-80.224
Arts & Entertainment District		11,033	7,948		25.799,-80.190
Brickell	Brickellite	31,759	14,541	West Brickell	25.758,-80.193
Buena Vista		9,058	3,540	Buena Vista East Historic District and Design District	25.813,-80.192
Coconut Grove	Grovite	20,076	3,091	Center Grove, Northeast Coconut Grove, Southwest Coconut Grove, and the West Grove (Black Grove)	25.712,-80.257
Coral Way		35,062	4,496	Coral Gate, Golden Pines, Shenandoah, Historic	25.750,-80.283

THE METHODOLOGY

- Data from Wikipedia and Foursquare API will be processed using Pandas library in Python;
- With the dataframe well prepared, we will be able to cluster the neighborhoods using the K-Means algorithm.

[illegible]

THE RESULTS – CLUSTER 0

Neighborhood	Population2010	Population/Km²	Lat	Long	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Distance	Number of Categories
Buena Vista	9058	3540	25.813	-80.192	0	Jewelry Store	Café	Boutique	Italian Restaurant	Coffee Shop	Furniture / Home Store	Shopping Mall	Fast Food Restaurant	Big Box Store	Mediterranean Restaurant	0.312014	26
Design District	3573	3623	25.813	-80.193	0	Jewelry Store	Café	Boutique	Italian Restaurant	Coffee Shop	Furniture / Home Store	Shopping Mall	Fast Food Restaurant	Big Box Store	Mediterranean Restaurant	0.340687	26
Upper Eastside	12525	2513	25.830	-80.183	0	Gas Station	Pizza Place	Motel	Intersection	Tennis Court	Italian Restaurant	Furniture / Home Store	Sushi Restaurant	Yoga Studio	Farmers Market	1.799492	8
Overtown	6736	3405	25.787	-80.201	0	Wings Joint	Southern / Soul Food Restaurant	Baseball Stadium	Farmers Market	Athletics & Sports	Event Space	Food	Flea Market	Fish Market	Fast Food Restaurant	3.337442	5
Park West	4655	3635	25.785	-80.193	0	Nightclub	Café	Bar	Lounge	Theater	Hotel	Gastropub	Japanese Restaurant	Flea Market	Event Space	3.426426	28
Lummus Park	3027	3680	25.777	-80.201	0	Seafood Restaurant	Hotel	American Restaurant	Fish Market	BBQ Joint	Historic Site	Restaurant	Spanish Restaurant	Soccer Field	Golf Course	4.415501	14
The Roads	7327	4899	25.756	-80.207	0	Lawyer	Health & Beauty Service	Moving Target	Business Service	Frozen Yogurt Shop	Gas Station	Italian Restaurant	Latin American Restaurant	Farmers Market	Fast Food Restaurant	6.826385	9
Grapeland Heights	14004	4130	25.792	-80.258	0	Hotel	Gym / Fitness Center	Restaurant	Bar	Gym	Golf Course	Hotel Pool	Dessert Shop	Diner	Discount Store	7.159026	7

- More nightlife neighborhood. This is our cluster of interest.

THE RESULTS – CLUSTER 1

Neighborhood	Population2010	Population/Km²	Lat	Long	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Distance	Number of Categories
Allapattah	54289	4401	25.815	-80.224	1	Boxing Gym	Department Store	Lounge	Event Space	Food	Flea Market	Fish Market	Fast Food Restaurant	Farmers Market	Yoga Studio	3.248677	3
Coconut Grove	20076	3091	25.712	-80.257	1	American Restaurant	Boat or Ferry	Fried Chicken Joint	Park	Yoga Studio	Empanada Restaurant	Fish Market	Fast Food Restaurant	Farmers Market	Event Space	13.274360	4
Coral Way	35062	4496	25.750	-80.283	1	Liquor Store	Pharmacy	Dive Bar	Seafood Restaurant	Burger Joint	Café	Golf Course	Mobile Phone Shop	Historic Site	Discount Store	11.721493	10
Flagami	50834	5665	25.762	-80.316	1	Seafood Restaurant	Bakery	Pet Store	Department Store	Fast Food Restaurant	Spanish Restaurant	Latin American Restaurant	Fish Market	Farmers Market	Event Space	13.823434	8
Liberty City	19725	3733	25.832	-80.225	1	Southern / Soul Food Restaurant	Grocery Store	Donut Shop	Flea Market	Fish Market	Fast Food Restaurant	Farmers Market	Event Space	Empanada Restaurant	Dog Run	3.802759	2
Little Haiti	29760	3840	25.824	-80.191	1	Yoga Studio	Shopping Mall	Gas Station	Ice Cream Shop	Italian Restaurant	Fast Food Restaurant	Liquor Store	Donut Shop	Dance Studio	Coffee Shop	0.916304	23
West Flagler	31407	4428	25.775	-80.243	1	Cuban Restaurant	Bakery	Pharmacy	Concert Hall	Comfort Food Restaurant	Gas Station	Latin American Restaurant	Fast Food Restaurant	Farmers Market	Event Space	6.863234	7

- Based on restaurants, this cluster has few venues and high population, what shows us a residential cluster.

THE RESULTS – CLUSTER 2

	Neighborhood	Population2010	Population/Km²	Lat	Long	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Distance	Number of Venues
13	Little Havana	76163	8423	25.773	-80.215	2	Latin American Restaurant	Shoe Store	Pharmacy	Grocery Store	Discount Store	Mexican Restaurant	Restaurant	Fast Food Restaurant	Farmers Market	Event Space	5.305431	9

- Another residential neighborhood, it's based only on Little Havana neighborhood.

THE RESULTS – CLUSTER 3

	Neighborhood	Population2010	Population/Km²	Lat	Long	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Distance	Number of Venues
1	Arts & Entertainment District	11033	7948	25.799	-80.190	3	Restaurant	Gym	Yoga Studio	Spa	Ice Cream Shop	Food Truck	Moving Target	Cupcake Shop	Paper / Office Supplies Store	Park	1.872783	19
8	Edgewater	15005	6675	25.802	-80.190	3	Restaurant	Gym	Sandwich Place	Art Gallery	Breakfast Spot	Pizza Place	Peruvian Restaurant	Cuban Restaurant	Coffee Shop	Ice Cream Shop	1.540520	48
20	Wynwood	7277	2983	25.804	-80.199	3	Art Gallery	Bar	Café	Food Truck	Theater	Peruvian Restaurant	Bakery	Caribbean Restaurant	Public Art	Coffee Shop	1.506737	80

- It has restaurants, but also different venues as Gyms, Yoga Studio and Art Galleries.

THE RESULTS – CLUSTER 4

	Neighborhood	Population2010	Population/Km²	Lat	Long	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	Distance	Number of Venues
2	Brickell	31759	14541	25.758	-80.193	4	Hotel	Italian Restaurant	Japanese Restaurant	Café	Bank	Juice Bar	Salon / Barbershop	Sandwich Place	Seafood Restaurant	Bar	6.428227	58
7	Downtown	71000	10613	25.774	-80.193	4	Hotel	Peruvian Restaurant	Café	Italian Restaurant	Brazilian Restaurant	Cosmetics Shop	Gym	Pharmacy	Coffee Shop	Lounge	4.649163	50

- Hotel cluster with some cafes and restaurants.

DISCUSSION

- As it's the more distant neighborhood from the actual local on Cluster 0, Grapeland Heights shows the best option in a first view.
- However, it's important to note that further analysis, subjective one, are needed now to decide:
 - Is this neighborhood socioeconomic distribution similar to the Design district?
 - Is housing price so expensive that it would make it not worth to open a bistro on it?

