

Battle of Neighborhoods Miami

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Introduction:

With the recent COVID-19 crisis, big cities have been impacted the most with their numbers skyrocketing recently (due to population density). According to covidactnow.org, “Over the last week, Miami-Dade County, Florida has averaged 1,817 new confirmed cases per day (66.9 for every 100,000 residents). If this trend continued for the next three months, this would translate to approximately 160,000 cases and an estimated 810,000 infections (30% of the population).” Specifically in Miami, this upwards trend has negative implications for the future of current (active) non-chain restaurants; many will go out of business.

However, this also means that following this pandemic, this empty void can be refilled with new restaurants. Given how big the city of Miami is, how can these restaurant venturers determine where to open up? The goal of this analysis project is to determine the best prospective neighborhoods to open up a restaurant in Miami. One of the most important factors to consider when determining where to place a restaurant, is the type of restaurants that are popular in a certain area.

Data:

We will be obtaining the neighborhood name data from this page: https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Miami . It shows that there are a total of 25 Neighborhoods in Miami. There are other columns in the table on this wiki page, but we will be ignoring those. Using the Nominatim package, we will be finding the longitude and latitude coordinates of these neighborhoods to then access the Foursquare API, which contains location data. Specifically, we will access data about restaurants in each neighborhood, to determine the most popular restaurants.

First five entries of Miami dataset:

Neighborhoods in Miami^[2]

Neighborhood ↕	Demonym ↕	Population 2010 ↕	Population/ Km ² ↕	Sub-neighborhoods	Coordinates ↕
Allapattah		54,289	4,401		25.815,-80.224
Arts & Entertainment District		11,033	7,948		25.799,-80.190
Brickell	<i>Brickellite</i>	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	<i>Grovite</i>	20,076	3,091	Center Grove, Northeast Coconut Grove, Southwest Coconut Grove, and the West Grove (Black Grove)	25.712,-80.257

As you can see, the only information that concerns us is the Neighborhood names (column 1). We will be finding coordinates on our own, and we can verify that they are correct by referring to the coordinates on this wiki page.