Clustering of Restaurants in Atlanta

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IBM Capstone Presentation

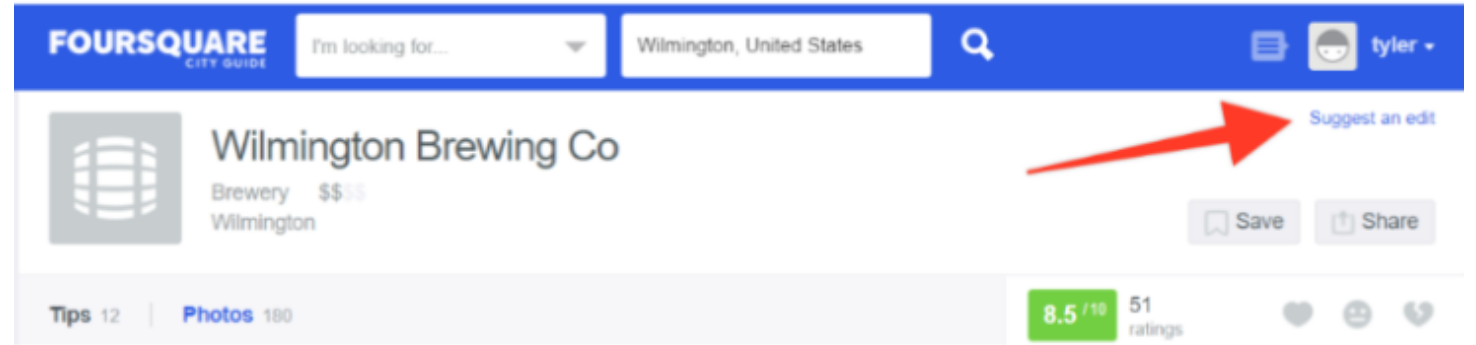# Do restaurants with more photos uploaded online have a higher rating?

A restaurant's online presence plays a major role in its success.

Producing professional pictures to advertise restaurants can be costly, but is it necessary?

This presentation will explore the necessity of this in specifically restaurants and bars in Atlanta, GA.

Using Foursquare Data

Foursquare is a popular data provider of location data, that crowd sources data on venues.

Foursquare Places API provides various statistics that developers can access.

For this project, I gathered ratings data and number of photos uploaded for venues through this API.

Data Pre-Processing

The initial data frame consists of 100 nearby venues, including entertainment venues like The Masquerade, that isn't necessary for this project

	name	id	categories	lat	lng
0	The Masquerade	40e0b100f964a520e9061fe3	Music Venue	33.751720	-84.389739
1	Jamrock Restaurant	4c40e04eaf052d7f16817c79	Caribbean Restaurant	33.751554	-84.391356
2	Ebrik Coffee Room	5303ba1a498e8936e10f0c4a	Coffee Shop	33.753897	-84.388782
3	Fish Bowl Poké	57d42371498ebd10aa19e10b	Poke Place	33.755727	-84.389400
4	Wine Shoe	4b0dd396f964a520de5023e3	Wine Shop	33.751559	-84.398937

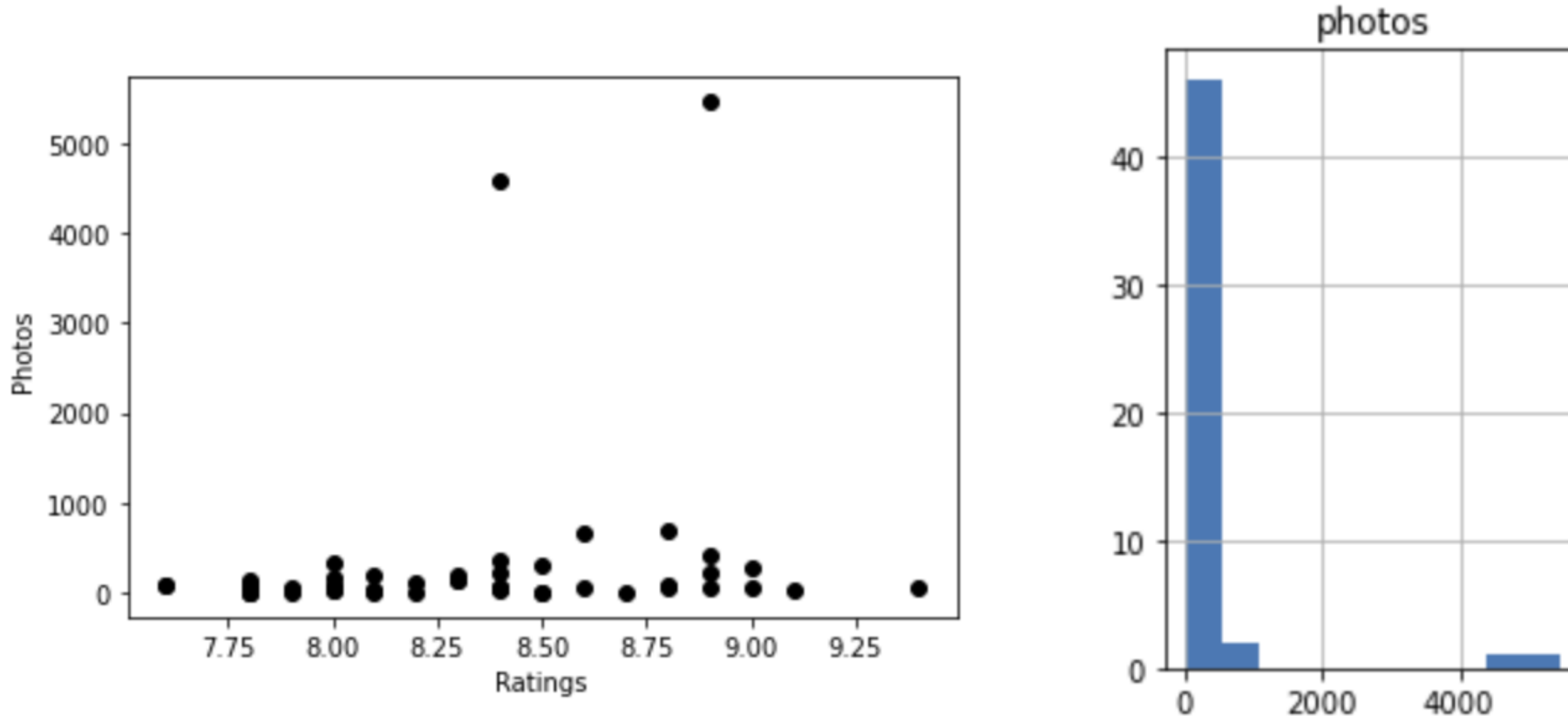After data cleaning, the data frame only has rows of restaurants or bars.

	name	id	categories
0	Jamrock Restaurant	4c40e04eaf052d7f16817c79	Caribbean Restaurant
1	Fish Bowl Poké	57d42371498ebd10aa19e10b	Poke Place
2	Reuben's Deli	4a89913bf964a5206d0820e3	Deli / Bodega
3	Blossom Tree	4d920f119d0f721e6b692473	Korean Restaurant
4	Anatolia Cafe & Hookah Lounge	4b6315eaf964a520e8612ae3	Hookah Bar

Data Pre-Processing

Added new columns to the dataframe, to include ratings and photos data

	name	id	categories	rating	likes	photos
0	Jamrock Restaurant	4c40e04eaf052d7f16817c79	Caribbean Restaurant	8.0	19	14
1	Fish Bowl Poké	57d42371498ebd10aa19e10b	Poke Place	8.7	24	11
2	Reuben's Deli	4a89913bf964a5206d0820e3	Deli / Bodega	8.6	58	66
3	Blossom Tree	4d920f119d0f721e6b692473	Korean Restaurant	8.4	57	62
4	Anatolia Cafe & Hookah Lounge	4b6315eaf964a520e8612ae3	Hookah Bar	8.3	146	194

Exploratory Data Analysis and Clustering

There is no clear relationship between the number of photos uploaded on the venue's page and the venue's rating. Clustering the data points along these 2 features supports this finding.

Results

Number of photos uploaded is not a predictor of a venue's rating. Restaurants in Downtown Atlanta should focus their resources on other factors that affect business.