



# What would Twitter say about your favorite city's restaurants?

Comparison between New York and LA

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Nishigandha Sontakke and Alaina Baker

## Introduction

- What is sentiment analysis?

## Data

- Twitter data for New York
- Twitter data for LA

## Methods

- Sentiment Analysis: TextBlob
- File handling: Pandas
- Plotting data: Plotly

## Results

- Sentiment Analysis for New York
- Sentiment Analysis for LA
- Comparison between New York and LA

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# Introduction


## What is sentiment analysis?

- Sentiment analysis, also known as opinion mining, is the understanding of the emotions behind a series of words
- In this age of social media, monitoring the sentiment about a certain topic can give us a valuable overview of public opinion
- It is a very powerful tool for businesses, organizations, and people alike

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**DATA**

# New York Dataset

## Details

- Method: Twitter API
- Total Number of tweets collected: 10676
- Total Geotagged tweets: 201

	lat	long	polarity	subjectivity	text
0	39.947990	-75.161460	0.44	0.95	Wow! The cocktails (and food) at vedgerestaura...
1	40.715234	-74.014904	1.00	1.00	Teamwork makes the dream work! We're looking f...
2	41.028427	-73.791037	0.00	0.00	Hungry to join the Shake Shack team? We're on ...
3	40.054399	-74.140520	0.00	0.00	We have a passion for our food, do you? Join o...
4	40.653964	-74.530067	0.00	0.00	Seafood pasta for dinner with some friends and...
5	40.715006	-74.046344	0.15	0.35	Kicking off Spring break like... \nDefinitely ...
6	40.758460	-73.587560	0.25	0.85	Str88 flexing iconwestbury luckynumber_t.w.o b...
7	40.753799	-73.827449	0.30	0.45	This food was amazing definitely need to go bac...
8	41.070215	-73.476645	0.31	0.25	We're looking for stellar people to join our t...
9	40.134666	-75.115379	0.00	0.00	We have a passion for our food, do you? Join o...
10	40.833802	-73.861192	0.00	0.00	We have a passion for our food, do you? Join o...
11	39.934700	-75.031100	0.50	0.60	🤤 #food #restaurant #instalove #instapic #inst...
12	40.796262	-74.315172	0.28	0.59	Delicious food at a local restaurant. Poke bow...

# LA Dataset

## Details

- Method: Twitter API
- Total Number of tweets collected: 11744
- Total Geotagged tweets: 386

	lat	long	polarity	subjectivity	text
0	32.766624	-117.159161	0.31	0.25	We're looking for stellar people to join our t...
1	32.771427	-117.073676	0.50	0.50	We're hiring in #SanDiego, CA! Click the link ...
2	34.039730	-118.660870	0.50	0.50	☐Lobster ☐ egg burrito. Crepe with jam. Malibu...
3	34.106901	-117.567356	0.00	0.00	We have a passion for our food, do you? Join o...
4	33.459350	-117.673330	0.28	0.35	Tried a new to me Mexican restaurant olamendis...
5	34.102055	-118.324836	1.00	1.00	Teamwork makes the dream work! We're looking f...
6	33.959969	-118.345261	0.35	0.65	I let it cool off It the Family grieve then st...
7	33.959969	-118.345261	0.35	0.65	I let it cool off It the Family grieve then st...
8	34.015230	-118.497990	0.79	0.88	Great food and conversation at my favorite res...
9	34.052200	-118.243000	0.00	0.00	Double Cheeseburger Patty Melts are the susten...
10	32.697539	-117.142025	0.67	0.83	#foodgasm alert. dsteinmetz73 took me to this ...
11	34.071949	-118.360298	0.00	0.00	Never knew there's a #Singapore #Malaysia #foo...
12	34.110893	-118.287323	0.90	0.88	Great Food, Awesome Atmosphere \nPicture Perfe...

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# Methods





## Extracting Tweets

- json.load used to extract a json object from json file

## Clean Text

- BeautifulSoup used as an html parser to remove html chunks of code
- Hyperlinks removed

## TextBlob

- TextBlob is a Natural Language Processing Package for sentiment analysis
- Finds keywords in a segment of text
- Scores text on polarity and subjectivity, on a scale of -1 to 1.



## Pandas DataFrame

- Converted list of dictionaries into a DataFrame
- Easier to use, nicer to view and better for collecting statistics
- Directly usable by Plotly

## Plotly

- Created maps and a plot using Plotly
- Plotly creates simple interactive maps and plots
- Good for viewing geographic data and statistics

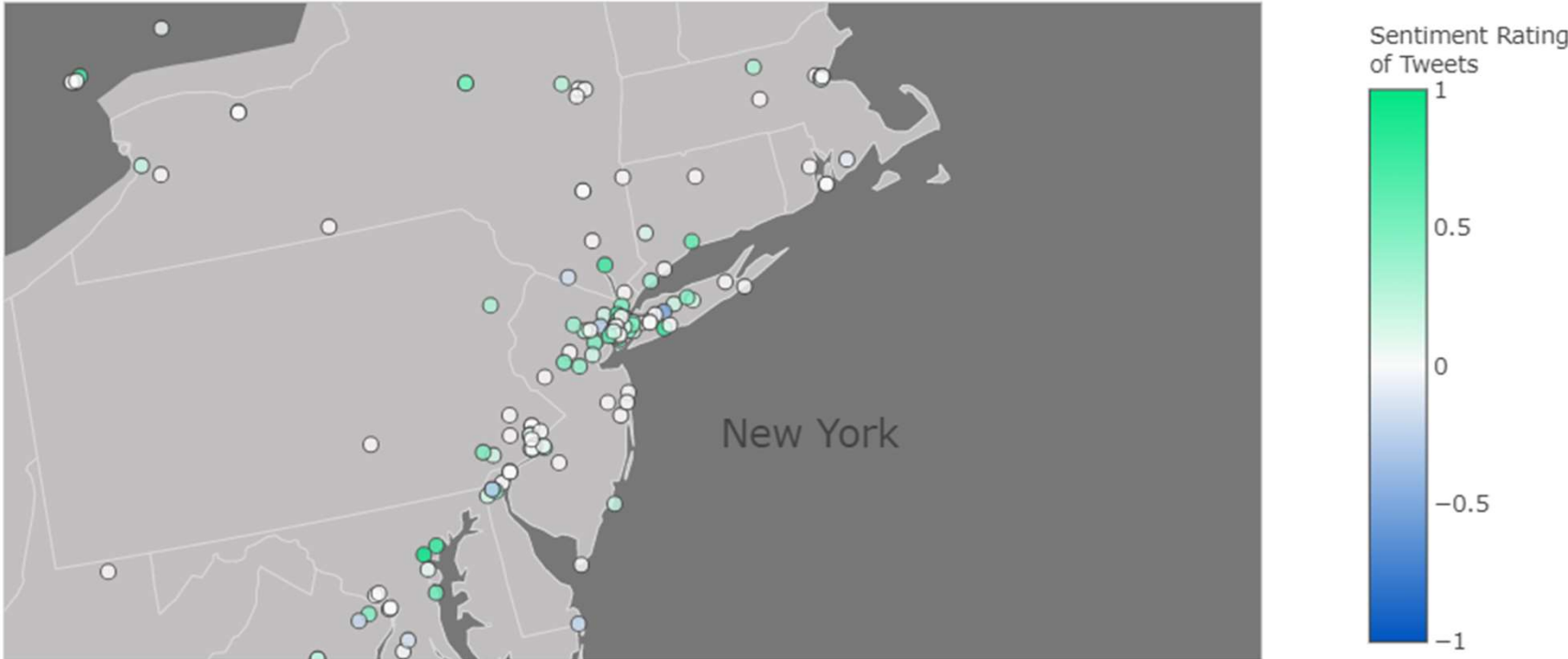
## Comparison

- Compared mean sentiment scores of tweets associated with each city

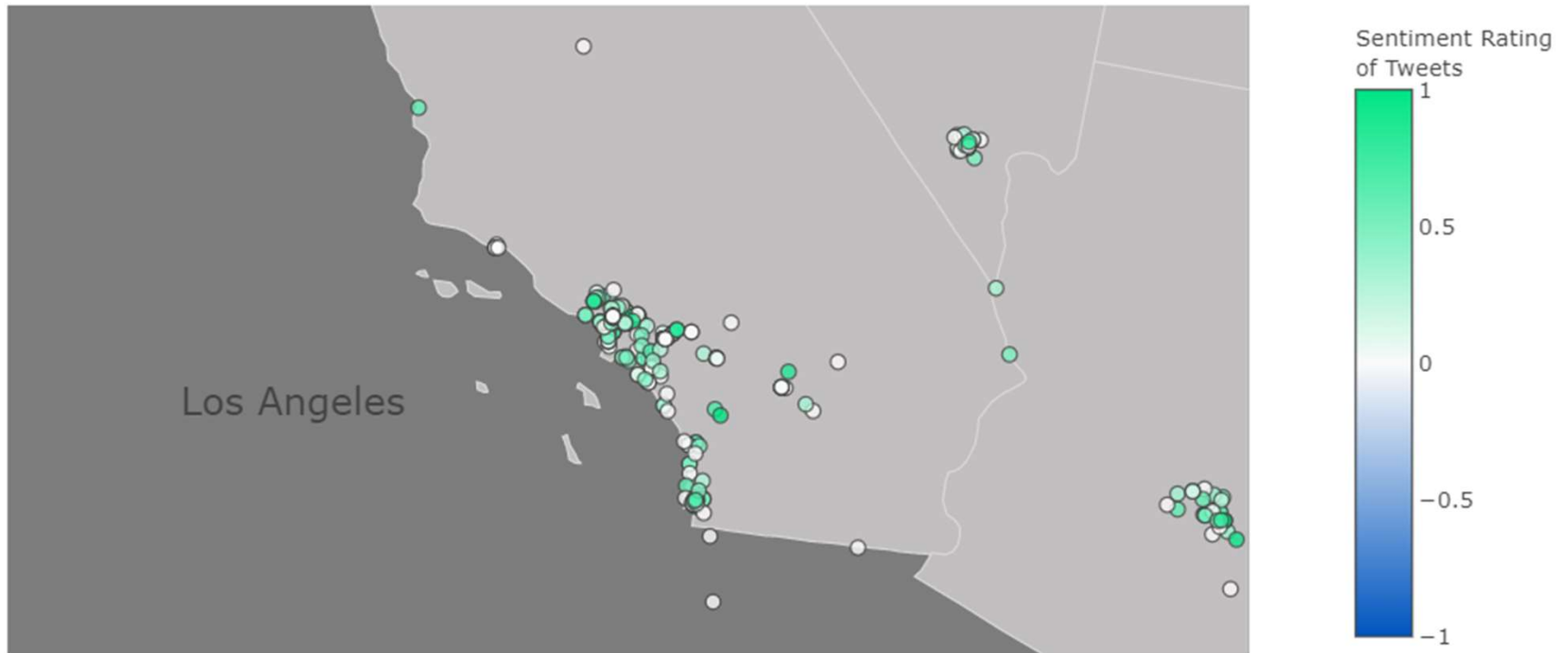
# Results

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# Sentiment Analysis for New York Restaurants and Bars



## Sentiment Analysis for Los Angeles Restaurants and Bars



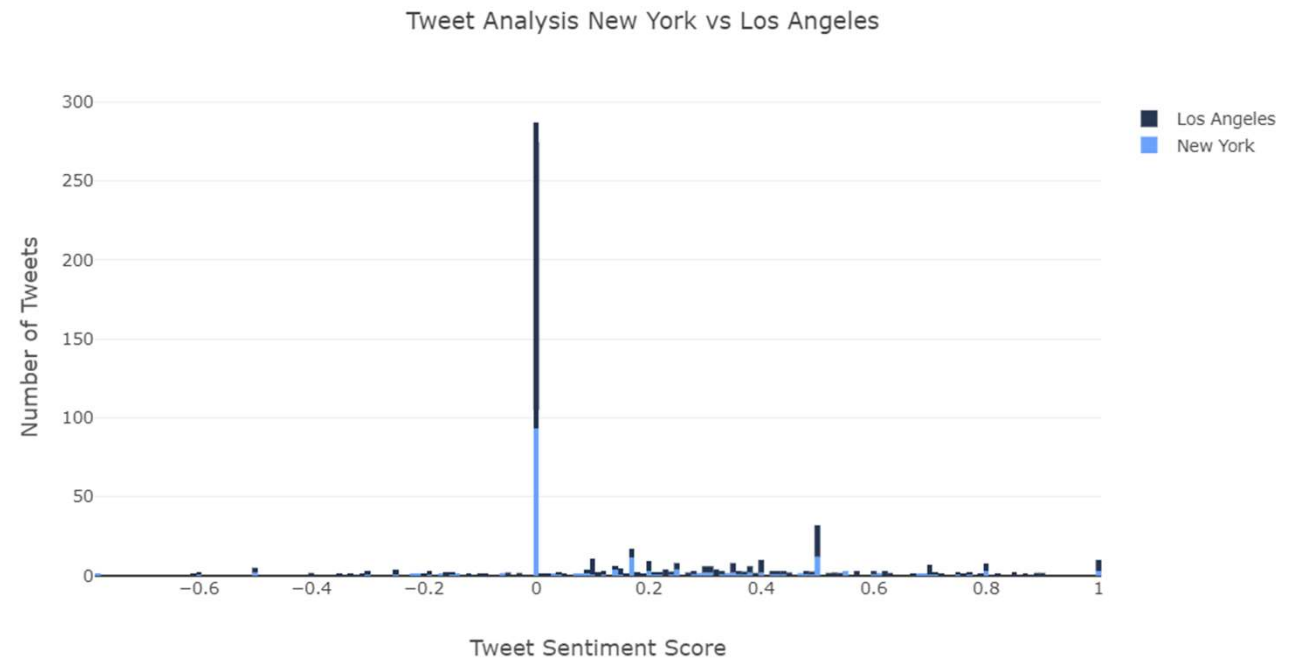
# Comparison Between Two Cities

## Overall Findings

For both cities, many of the tweets were scored as neutral

Many more positive tweets were found than negative

LA has a slightly high mean sentiment polarity



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# Jupyter Notebook Demo

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Questions?