



HOW CAN A RESTAURANT FIND THE 'BEST' CUSTOMERS



Getting Help with Yelp!

by: Jason Keung



defining the 'best' customer:



defining the 'best' customer:





defining the 'best' customer:





Paul H.

Manhattan, NY

87 friends

189 reviews

Elite '15

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11/19/2015



1 check-in



Summary:

I rarely find myself in this neighborhood. But perhaps I'll come more often? This is a great Lebanese place with fantastic food, service, and décor. Highly recommended!



Atmosphere:

Huge place with very interesting boxy décor. The bathrooms were very clean and had actual cloth towels, fantastic!



Food:

We got the kafta which consisted of 4 decent sized skewers with a garlic sauce and pita. The meat tasted very fresh and well spiced. I'm usually not a fan of brussel sprouts but my girlfriend insisted and this dish absolutely stole the show. The usually bland sprouts sprang to life in the spices and grapes with walnuts. So glad we got these.



Drinks:

We got a jasmine infused mint tea which was very tasty. It was light and satisfying.



Service:

Here's where this place shines. Our server, Alexander, was absolutely exquisite. Whatever this place is paying him, it's not nearly enough. He was very warm, friendly, and had fantastic recommendations. Super funny to boot. He was very attentive without being overbearing. 5 stars!



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BEST CUSTOMER!

- leave positive ratings
- local to your business
- have a credible history
- leave influential reviews



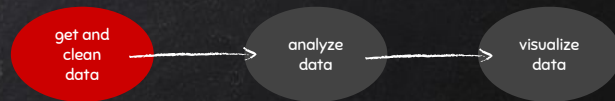
A DATA-DRIVEN PROCESS





A DATA-DRIVEN PROCESS





GETTING AND CLEANING THE DATA

Local Restaurants

Obtained names of the closest 1000 restaurants to where my location is using Yelp API



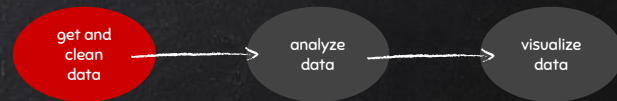
Scrape User Reviews

Get every user, user rating, date, and review for local restaurants with BeautifulSoup

★★★★★ 10/31/2015

Their pizza is amazing, and the parmigiana di melanzane was also very very good. I loved the bread and ricotta they give you at the beginning.

The service was great too, and when they turn up the music with traditional Neapolitan songs you feel like you are in Napoli.



>150,000 REVIEWS

That's a lot of reviews

~80,000 USERS

And a lot of unique users



CLEANED DATA

~ 4000 QUALITY LOCAL USERS
AVERAGE YELP RATING
NUMBER OF LOCAL REVIEWS
DATE OF LAST REVIEW



Phil "I Yelp harder than you" H.

New York, NY



1008 Friends



2647 Reviews



5636 Photos

Elite 2015 '14 '13 '12 '11

"Motivation. Dedication. Determination. No excuses!"

Reviews



A DATA-DRIVEN PROCESS





ANALYZING THE DATA

Preprocess Reviews

- word stemmers
- sentence and word tokenizers
- remove stop words
- parts of speech tagging
- n-grams

Cluster Reviews

- TFIDF (term frequency inverse document frequency)
- k-means clustering



DEFINING THE CLUSTERS

Cluster Name	Word 1	Word 2	Word 3	Word 4	Word 5
Happy Hours	bar	drink	beer	hour	happy
Burgers and Shakes	burger	fried	chicken	cheese	shakes
Lunch Sandwiches, Salads, and Soups	lunch	sandwich	salad	chicken	soups
Indian Food	indian	curried	chicken	dishes	love
Sit Down Lunch	lunch	re	bar	sandwich	table



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A DATA-DRIVEN PROCESS





VISUALIZING THE DATA





THANKS!

<http://54.210.117.210:5000/>



github.com/jkeung/Customer_Recommender



jason.s.keung@gmail.com



[linkedin.com/in/jasonkeung](https://www.linkedin.com/in/jasonkeung)

get and
clean
data

analyze
data

visualize
data

Yelp Customer Finder

Minimum Average Rating: **3.55**



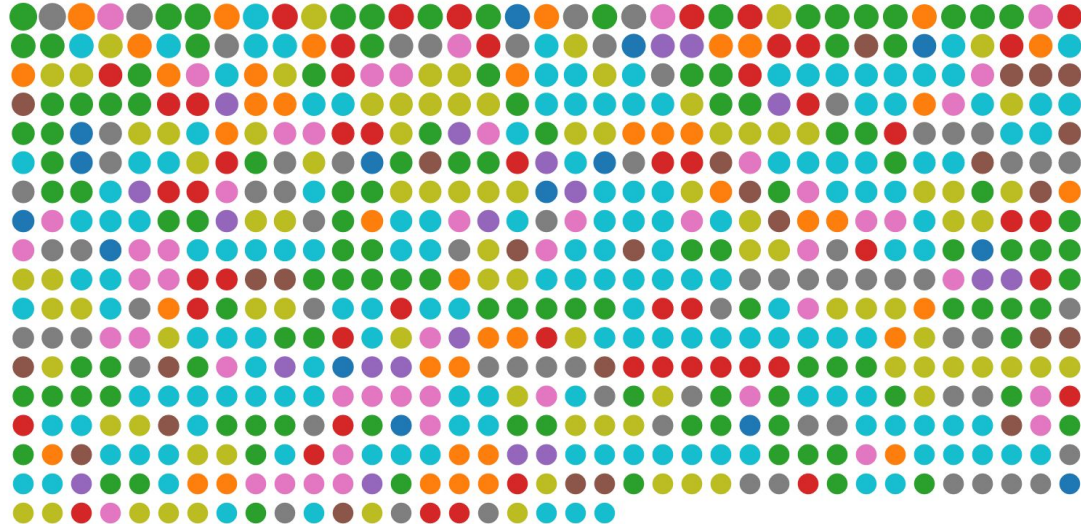
Minimum Number of Reviews: **12**



Clusters: **Select Clusters**

- ☒ Happy Hours
- ☒ Burgers and Shakes
- ☒ Lunch Sandwiches, Salads, and Soups
- ☒ Indian Food
- ☒ Sit Down Lunch
- ☒ Korean Food
- ☒ Wines and Brunch
- ☒ Spicy Rice Dishes
- ☒ Desserts
- ☒ Pizza Lovers

Each circle below represents a customer



get and
clean
data

analyze
data

visualize
data

Yelp Customer Finder

Each circle below represents a customer

Average Rating: 3.41
Number Local Reviews: 114
Cluster: Pizza Lovers

Minimum Average Rating: **2.4**



Minimum Number of Reviews: **98**



Clusters: **Select Clusters**

- ☐ Happy Hours
- ☐ Burgers and Shakes
- ☐ Lunch Sandwiches, Salads, and Soups
- ☐ Indian Food
- ☐ Sit Down Lunch
- ☐ Korean Food
- ☐ Wines and Brunch
- ☐ Spicy Rice Dishes
- ☐ Desserts
- ☒ Pizza Lovers

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Find tacos, cheap dinner, Max's

Near 28th and madison, New York, NY



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Phil "I Yelp harder than you" H.

New York, NY



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Elite 2015

'14

'13

'12

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Compliment



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Similar Reviews

Phil's Profile



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Port Canaveral

Landmarks & Historical Buildings

445 Challenger Rd

Cape Canaveral, FL 32920



12/13/2015



1 check-in



Listed in 2015 Reviews

This was my first time taking a cruise out of Port Canaveral

About Phil H.

Rating Distribution

5 stars

432

4 stars

923

3 stars

1030

2 stars

191

1 star

70

[View more graphs »](#)

Review Votes



Useful 20991