

Food Finder

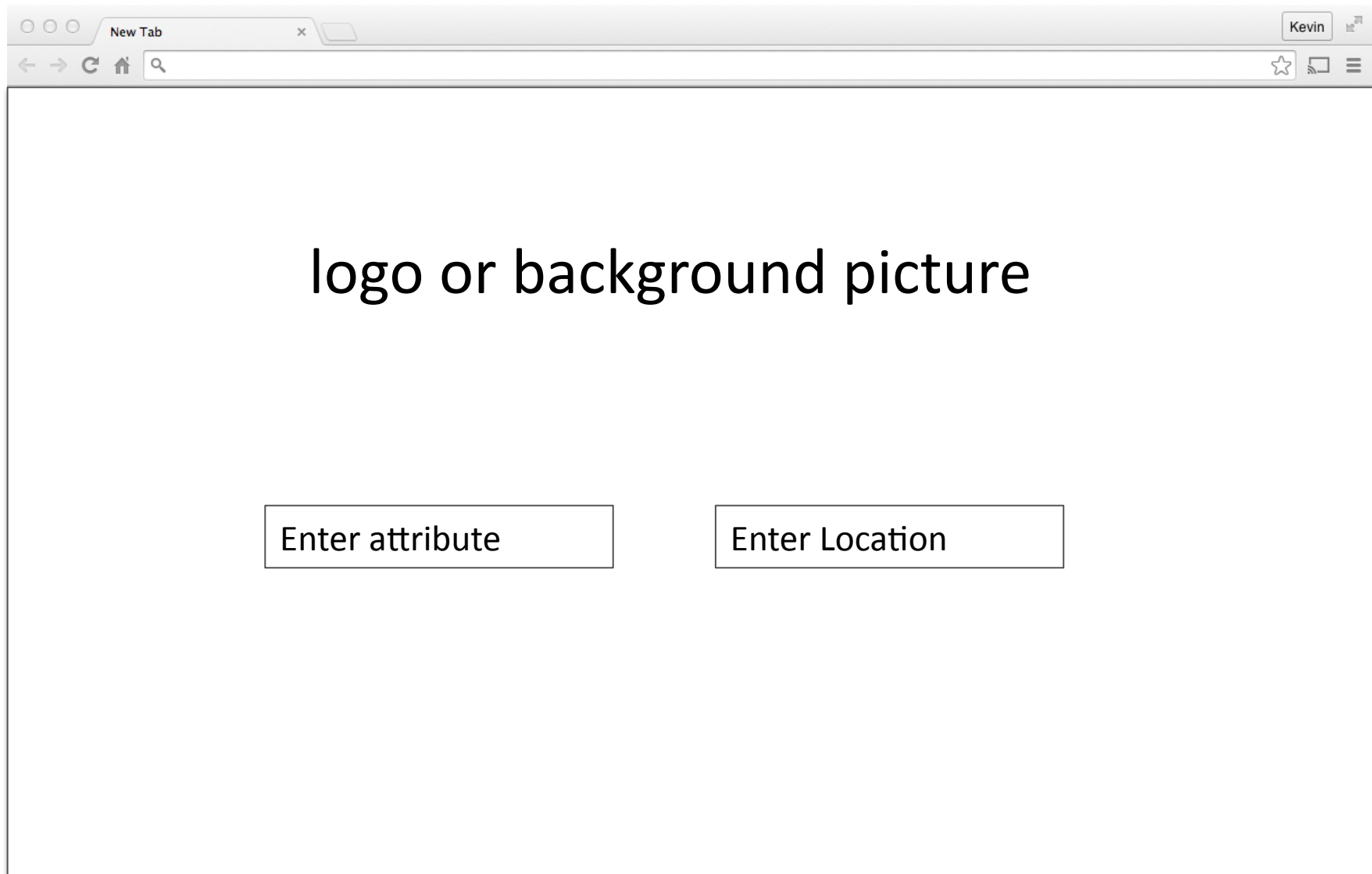
Finding you the best burrito

Kevin Wecht

The Problem:

There is no way to aggregate reviews of the best restaurant “dishes” in your area.

Mock-up



A web browser window mock-up with a single tab titled "New Tab". The address bar contains navigation icons (back, forward, refresh, home) and a search icon. The main content area displays the text "logo or background picture" in a large, black, sans-serif font. Below this text are two rectangular input fields. The first field is labeled "Enter attribute" and the second field is labeled "Enter Location". Both fields have thin black borders. The browser's top bar includes window control buttons (three circles) and a user profile icon labeled "Kevin".

logo or background picture

Enter attribute

Enter Location


Mock-up

New Tab

Kevin

← → ↺ 🏠 🔍

☆ 📺 ☰




Find burrito

Near San Francisco, CA

🔍

Home About Me Write a Review Find Friends Messages Talk Events



1. El Farolito

★★★★☆ 3239 reviews

\$ · Mexican

📋 On the menu: Burrito

Mission


2779 Mission St
San Francisco, CA 94110
(415) 824-7877

Burrito Score

4.9

🖼️

One of my favorite **burrito** places in the city. They are very popular for a reason! Although their **burritos** are not as good during the day. Probably because im sober during the day....mostly....



2. Garaje

★★★★☆ 565 reviews

\$\$ · Mexican, Burgers, Dive Bars

SoMa

475 3rd St
San Francisco, CA 94107
(415) 644-0838

4.3

🖼️

what you are looking for. Food: Pressed California Steak **Burrito**: I found the **burrito** very good in its pressed form. The outside wrap is much thicker than your typical **burrito** but holds...

Return results with a burrito score

Mock-up

Mock-up of a Yelp search results page for burritos in San Francisco, CA.

Search Results:

- 1. El Farolito** (Mission)
 - 3239 reviews
 - \$ - Mexican
 - On the menu: Burrito
 - Address: 2779 Mission St, San Francisco, CA 94110
 - Phone: (415) 824-7877

Sentiment Analysis Results:

Burritos	4.9
Tacos	4.6
Cleanliness	3.8
Margaritas	2.0

Show restaurant info with other common objects of sentiment at that restaurant

Data and Algorithms

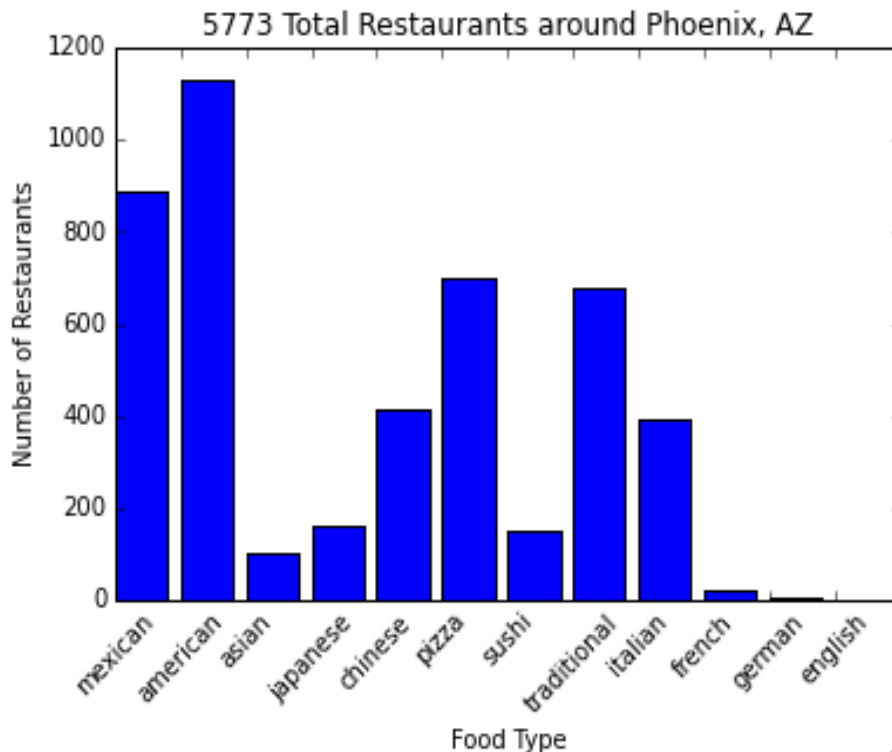
- Data
 - ~300K Yelp restaurant reviews from Phoenix, AZ (hopefully SF for demo).
 - Business name and category
 - Rating: [1-5] Stars
 - Text of the review
- Algorithms
 - 1. determine objects of sentiment and features that encapsulate sentiment
 - Discover domain dependent objects and features
 - 2. assign sentiment values to unknown features
 - 3. classify (calculate) the sentiment felt toward objects using full set of features

Will involve NLP for sentiment analysis, clustering, classification?

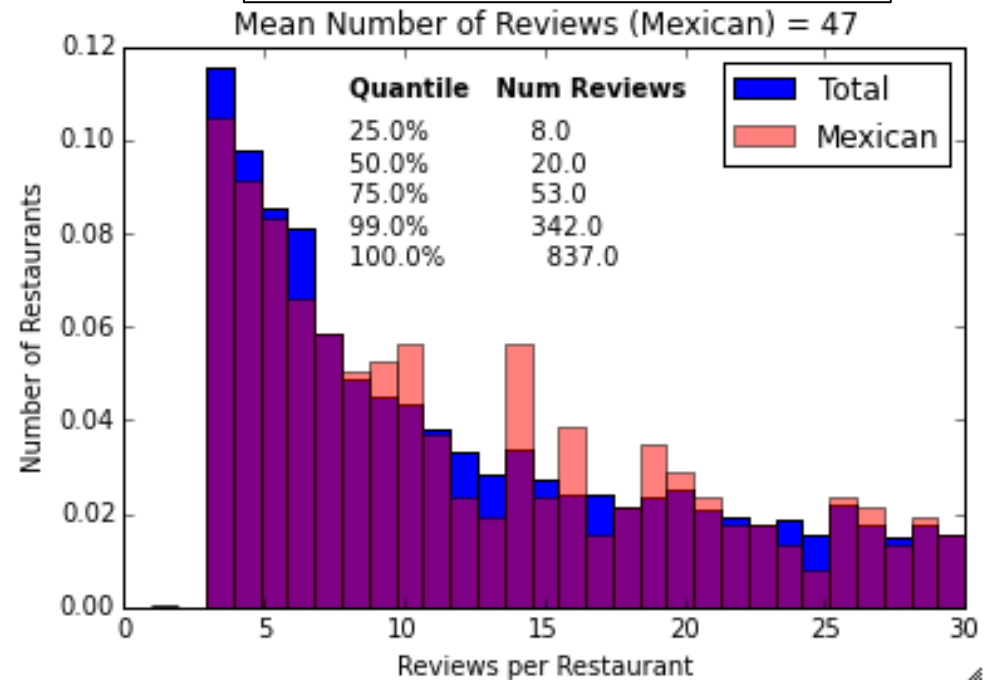
Visualizing the Data

- Yelp reviews from Phoenix, AZ (hopefully SF).
 - How many reviews, how many restaurants, what does the data look like?

How many restaurants?



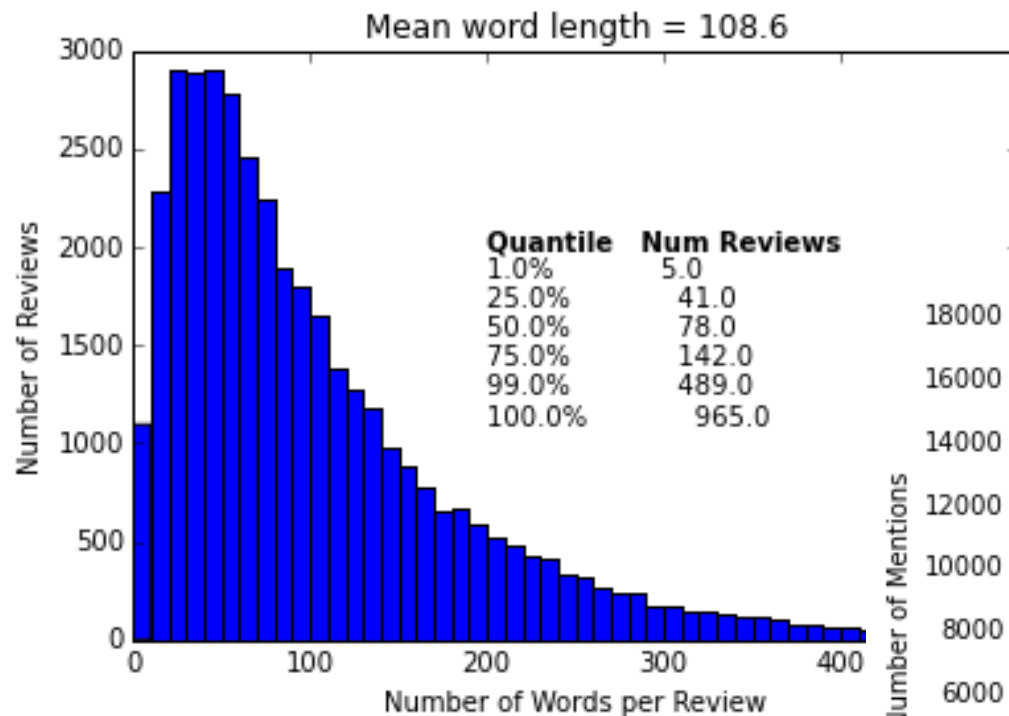
How many reviews?



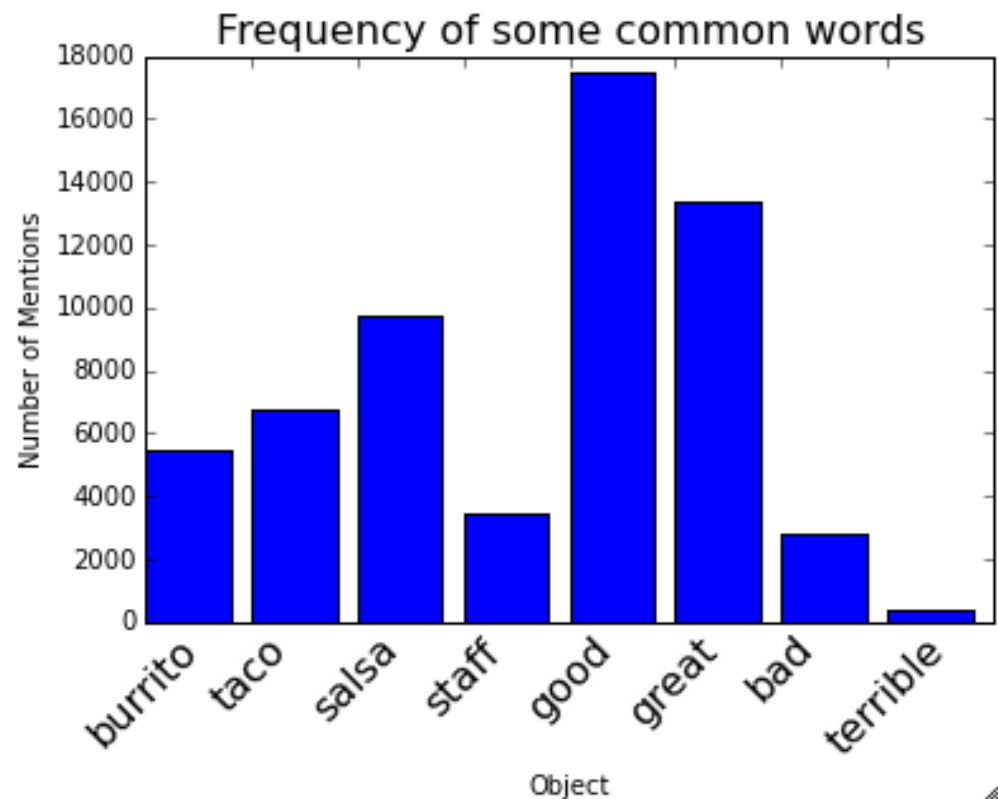
Focus on Mexican restaurants for minimum viable product

Visualizing the Data

How long are the reviews?

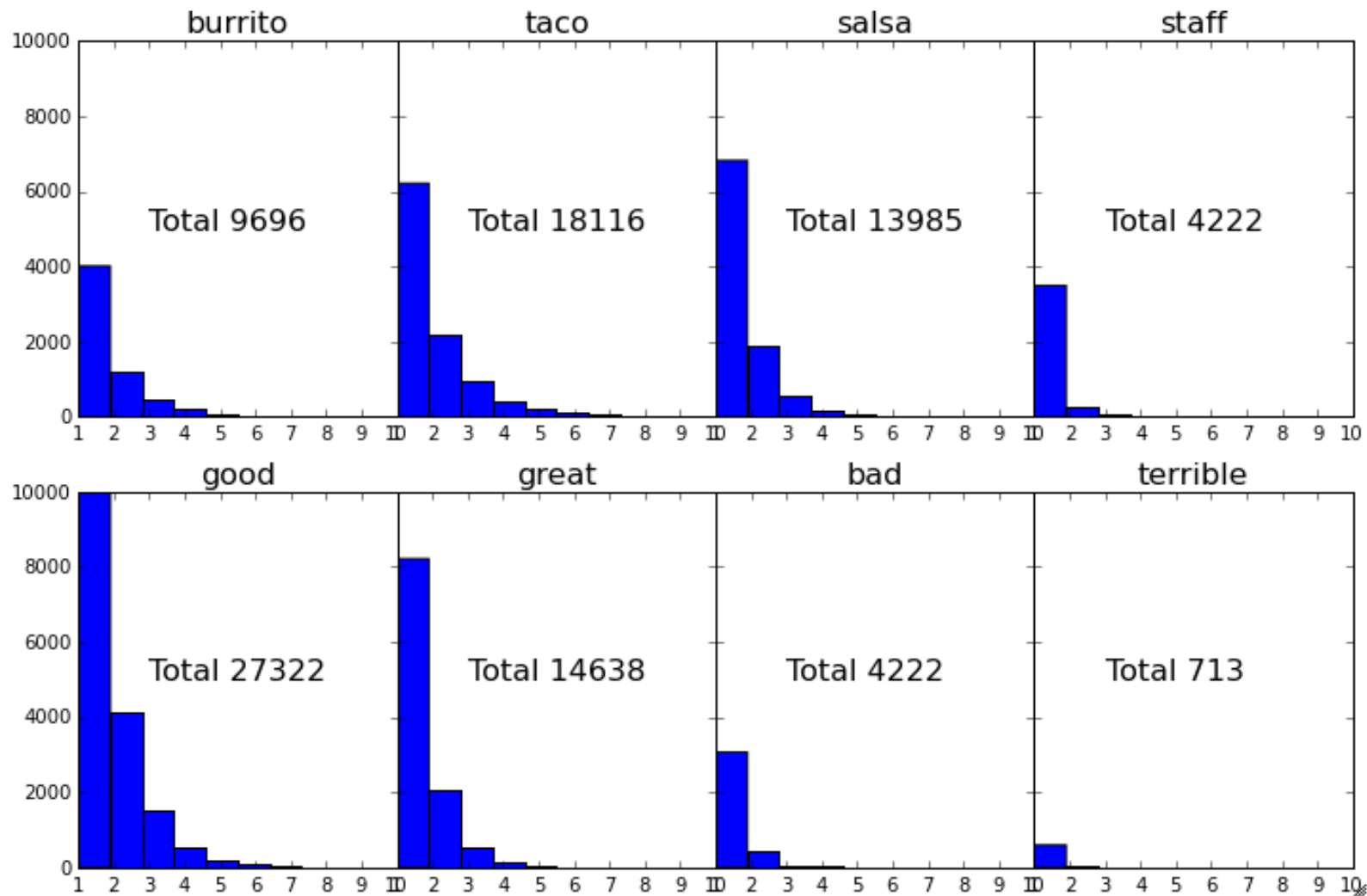


How many reviews mention common words?



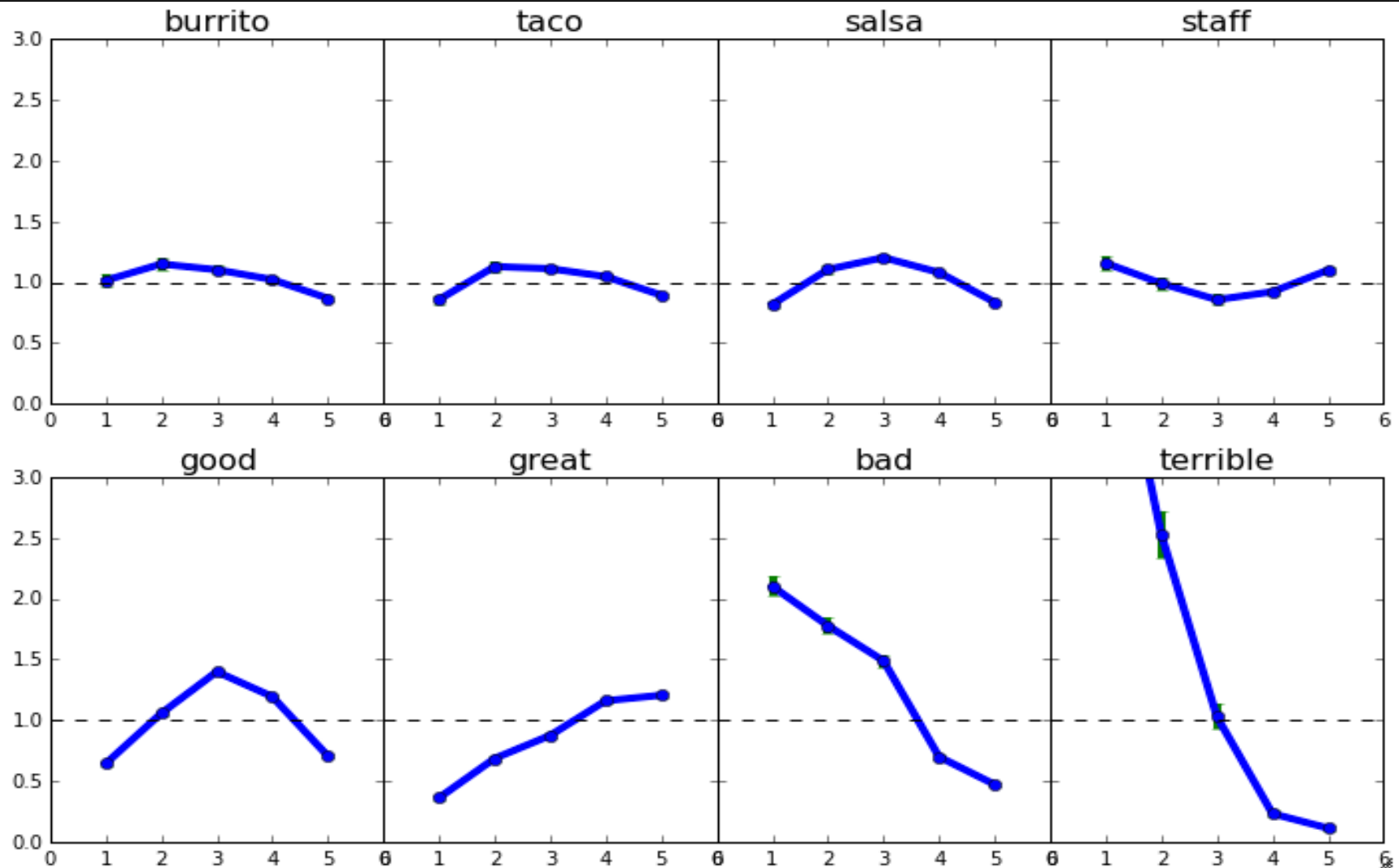
Visualizing the Data

How frequently are words repeated in a review?



Visualizing the Data

How frequently are words used based on their overall sentiment?



Validating Results

How do I know that my results are informative?

- Anecdotal
 - Select a few reviews to read by hand, see if my algorithm does what's expected.
- Sanity Check
 - Results should correlate with overall restaurant ranking.
- Evaluate against baseline performance
 - Baseline algorithm: avg. rating of reviews that mention each object for each restaurant.
- Independent Data
 - 538.com ratings of burritos (perform more highly in my rankings than would be expected given restaurant overall rating or even the baseline above?)
 - Health inspection records (testing sentiment toward cleanliness)
 - Other? Open to brainstorm!
- While in use
 - Do users use the product? Do returning users use it?
 - Do A/B tests swapping the default ordering of results or the sorting options

Expanding Analysis

How can I expand this beyond burritos?

- How to change for other cuisine types?
- How to change for other locations?
- How to change for other businesses types?
- I cannot answer these Qs. The goal entering is to use a framework that can easily be scaled (isn't sensitive to domain-dependent information). In two weeks, the limitations of my actual product will inform the answers to these questions.