

E6893 Big Data Analytics:

Personalize Your  *Business*

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Provide restaurant owners with personalized recommendations on how to improve their business.

- Is their business improving over time?
- Who is their competition?
- What is their rating vs. competitors?
- What are the most common types of comments left in reviews?





- **86K businesses**
- **566K business attributes**, e.g., hours, parking availability, ambience.
- **2.7M reviews**
- **649K tips**
- Social network of **687K users**
- **200,000 pictures**

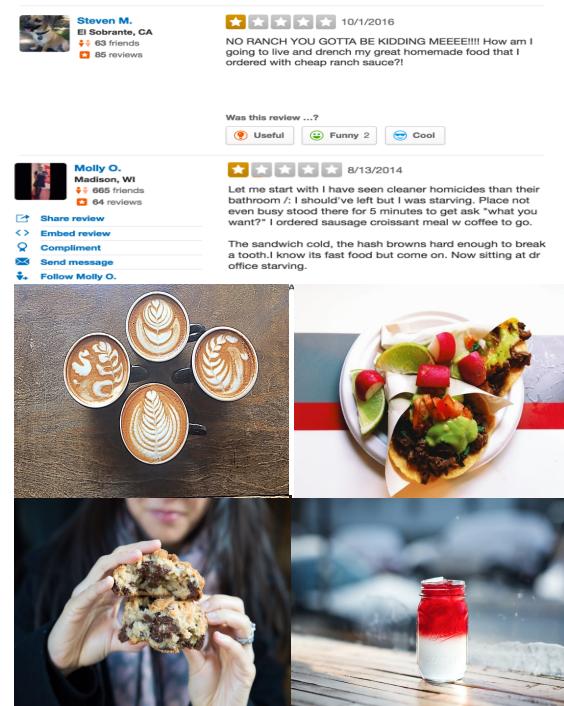
Cities:

U.K.: Edinburgh

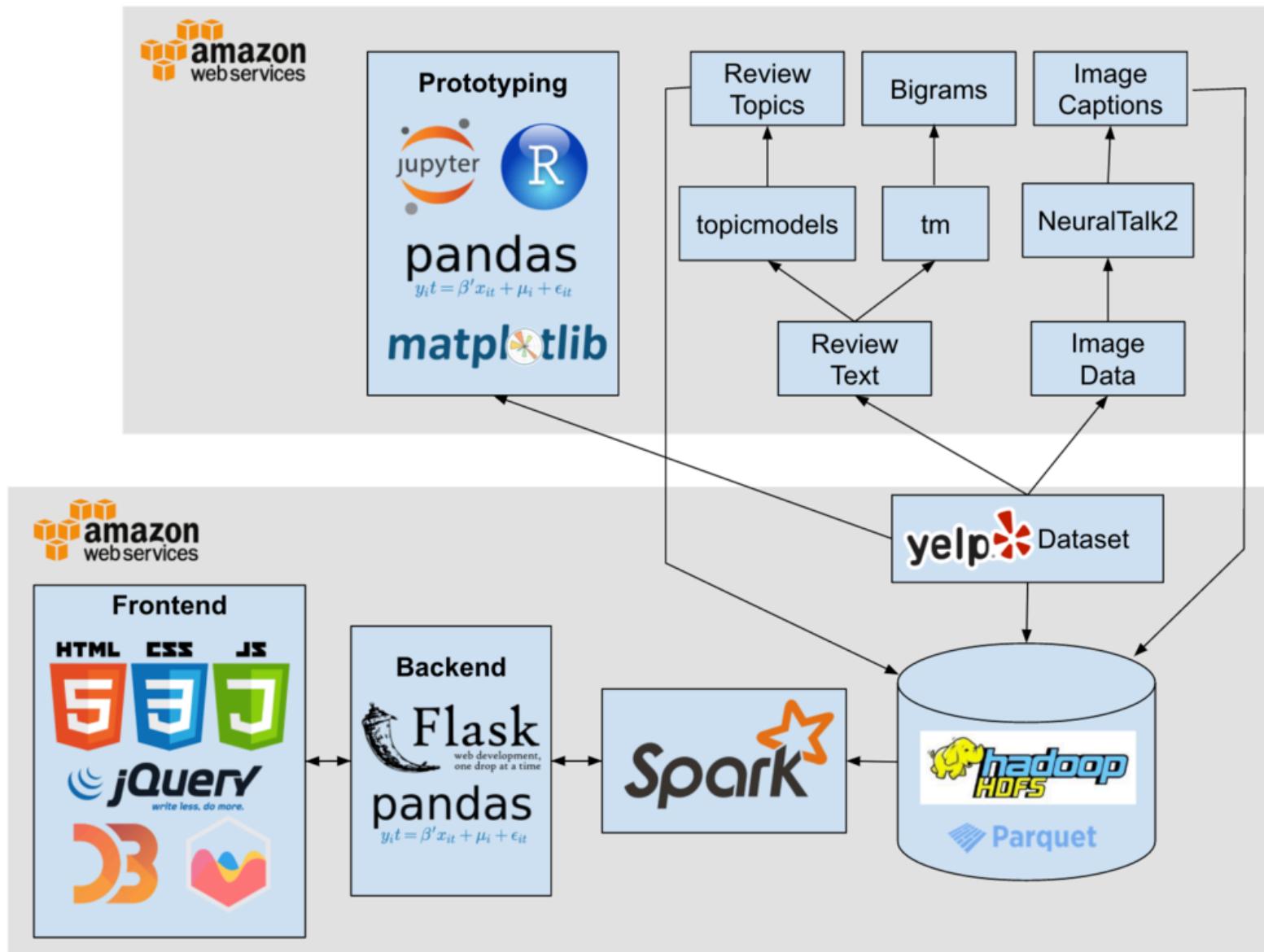
Germany: Karlsruhe

Canada: Montreal and Waterloo

U.S.: Pittsburgh, Charlotte, Urbana-Champaign,
Phoenix, Las Vegas, Madison



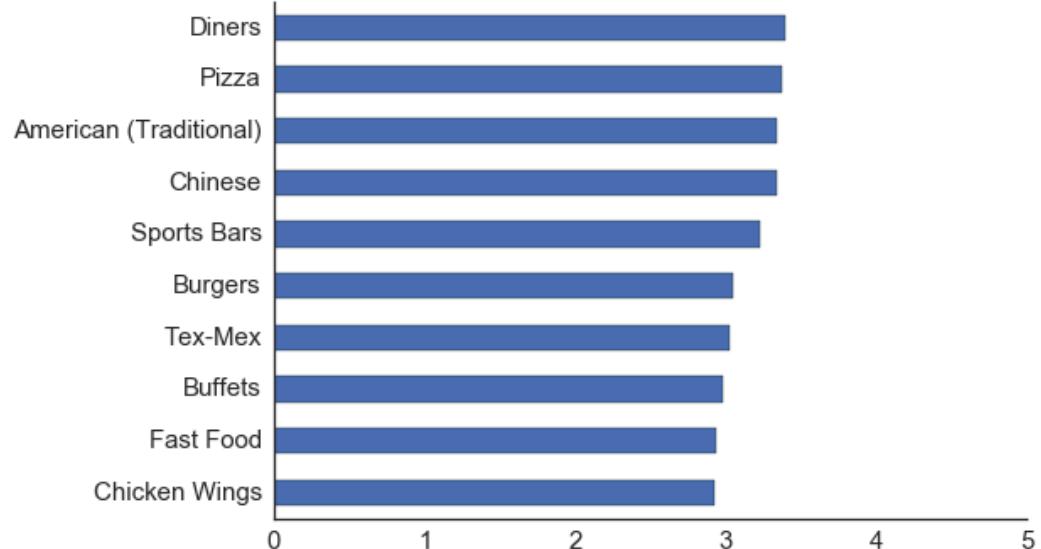
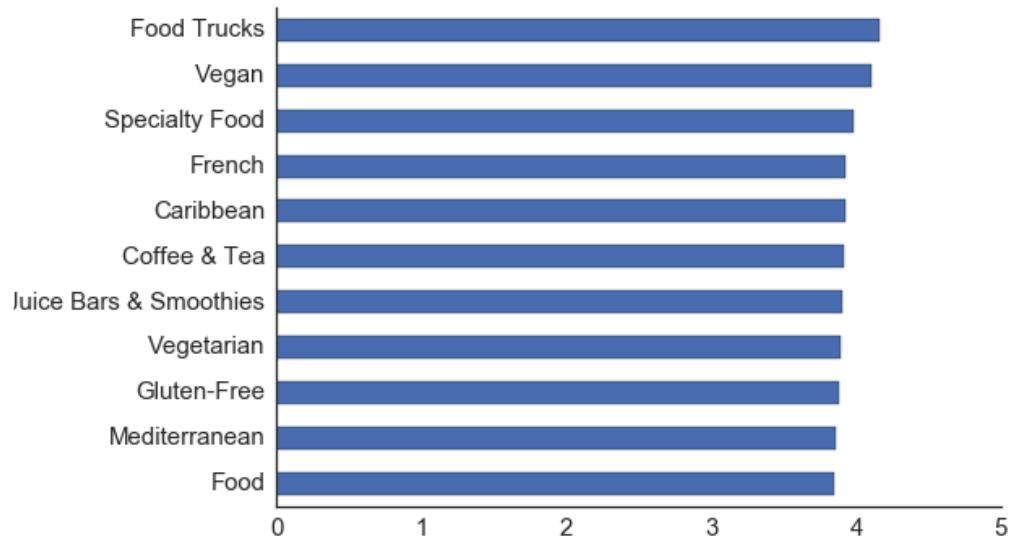
Technologies



Findings

Restaurants are best compared to competition in their category

Avg Rating by Category

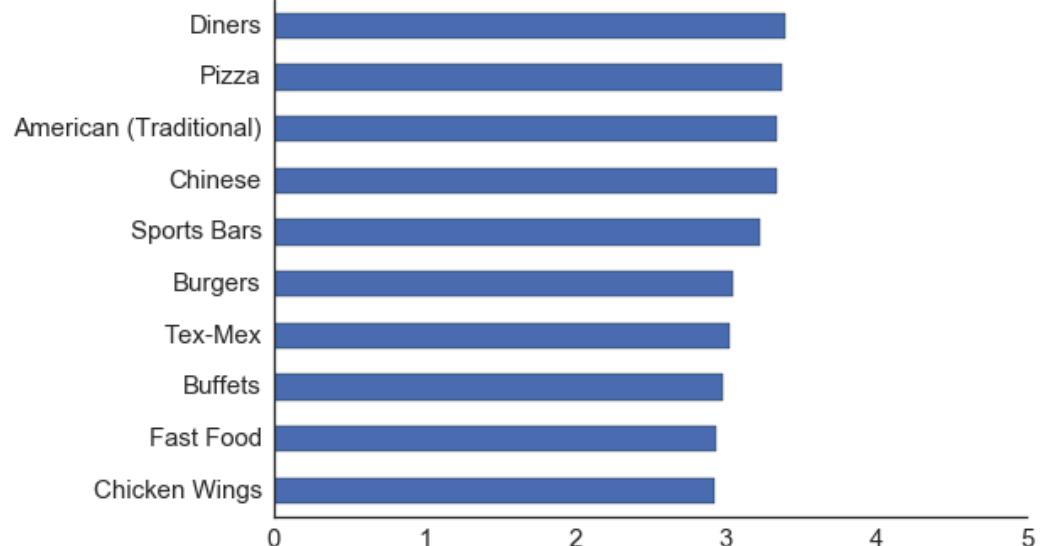
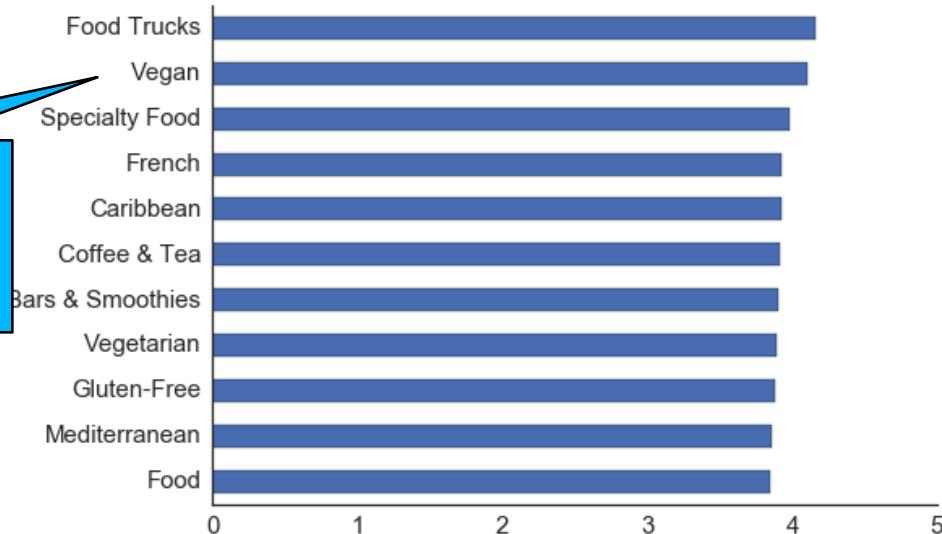


Findings

Restaurants are best compared to competition in their category

Vegan & Vegetarian restaurants among the top rated

Avg Rating by Category

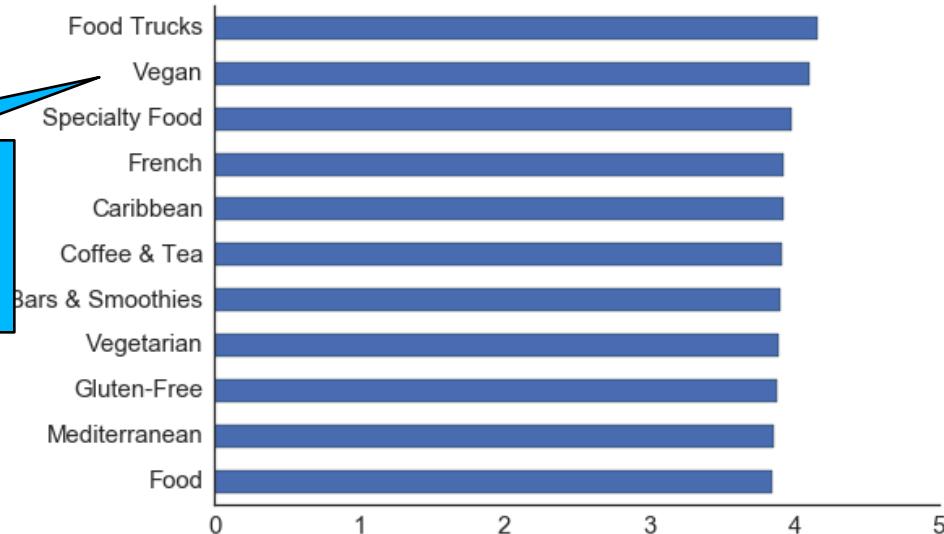


Findings

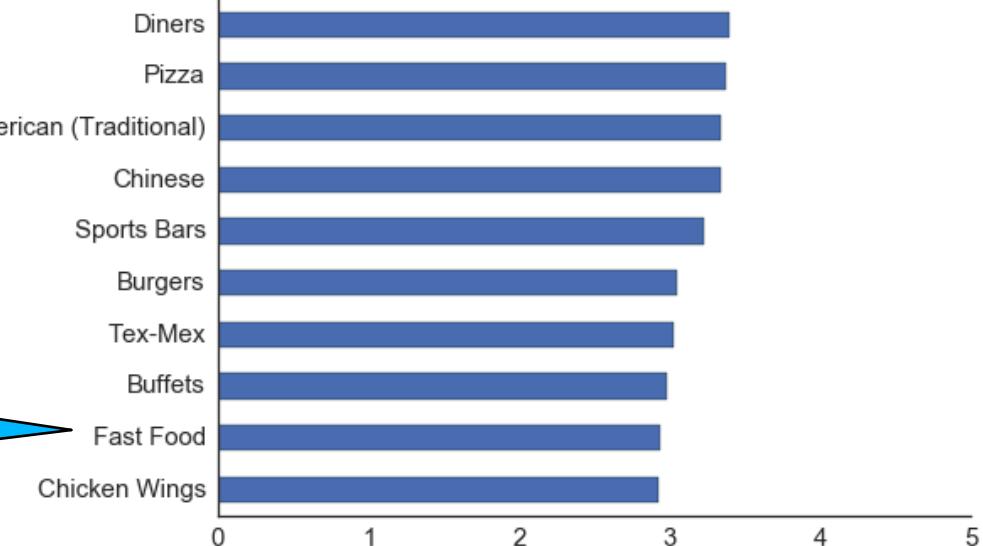
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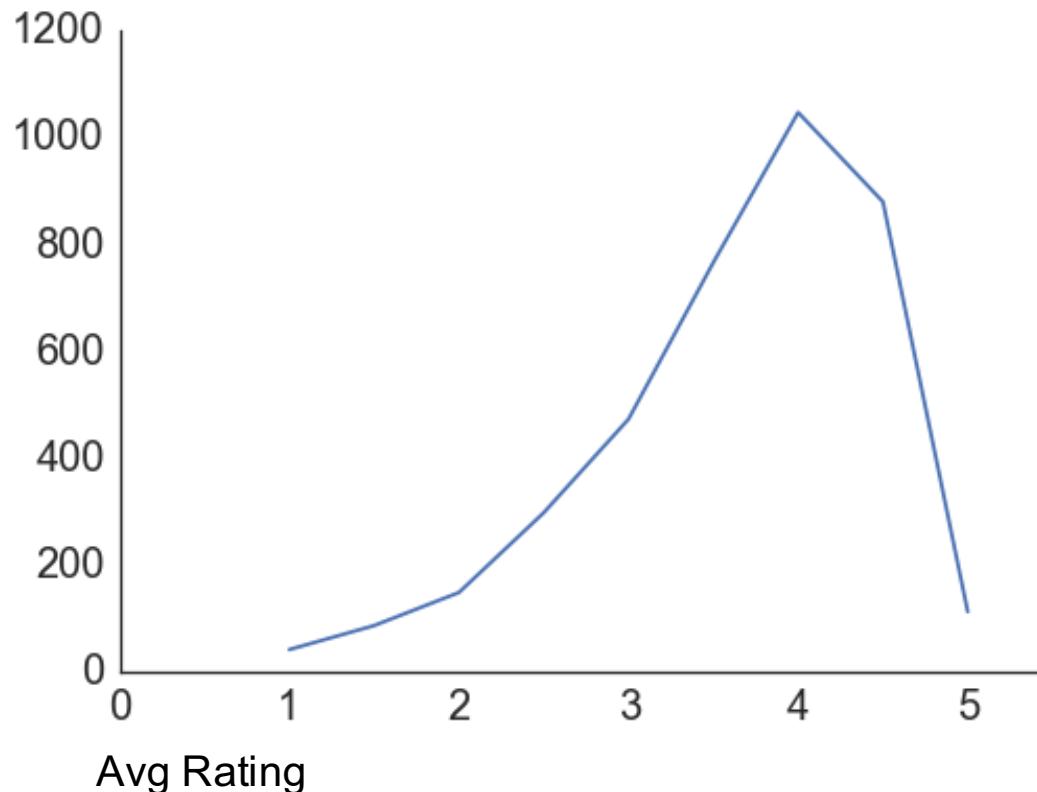


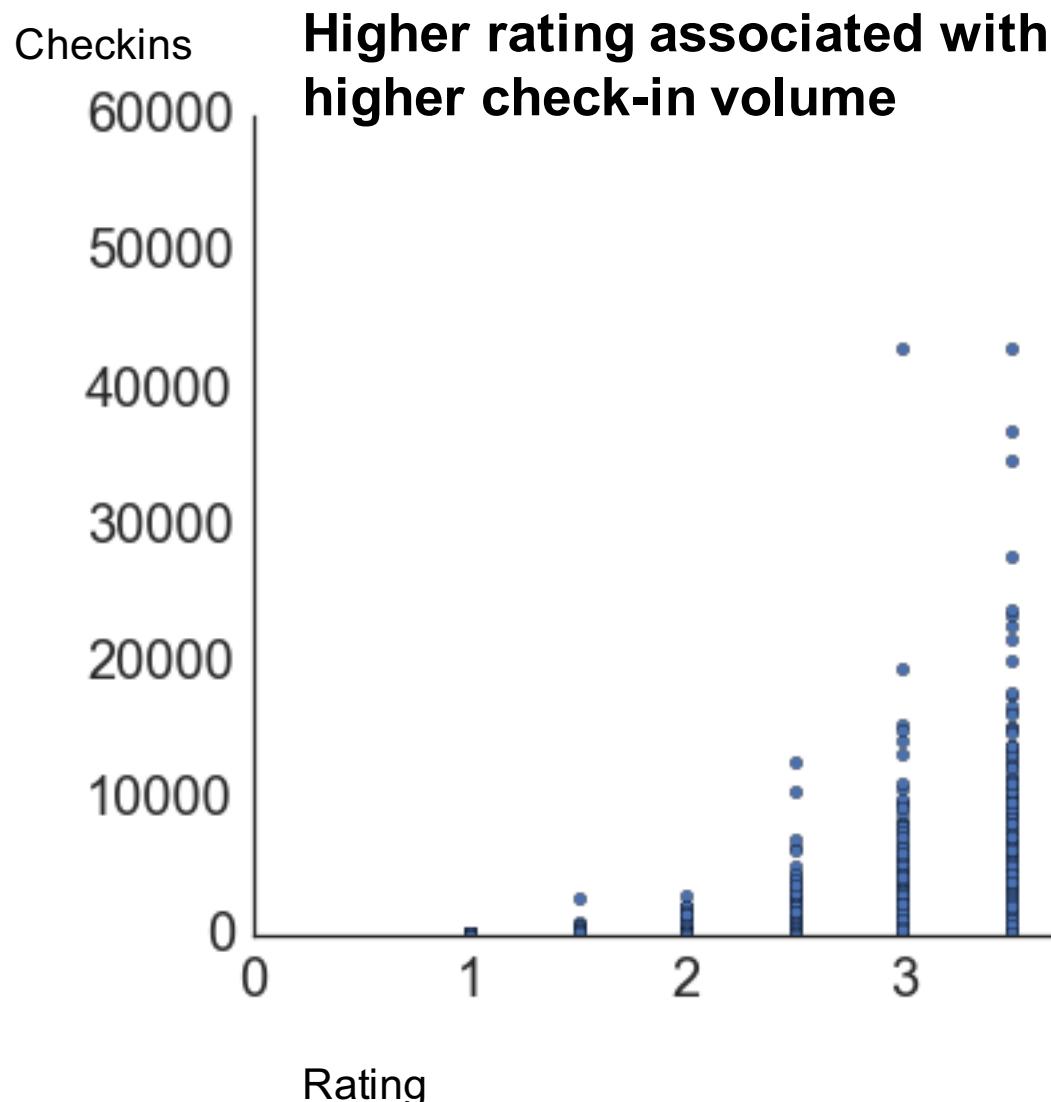
Fast food at the bottom



Higher rating associated with higher check-in volume

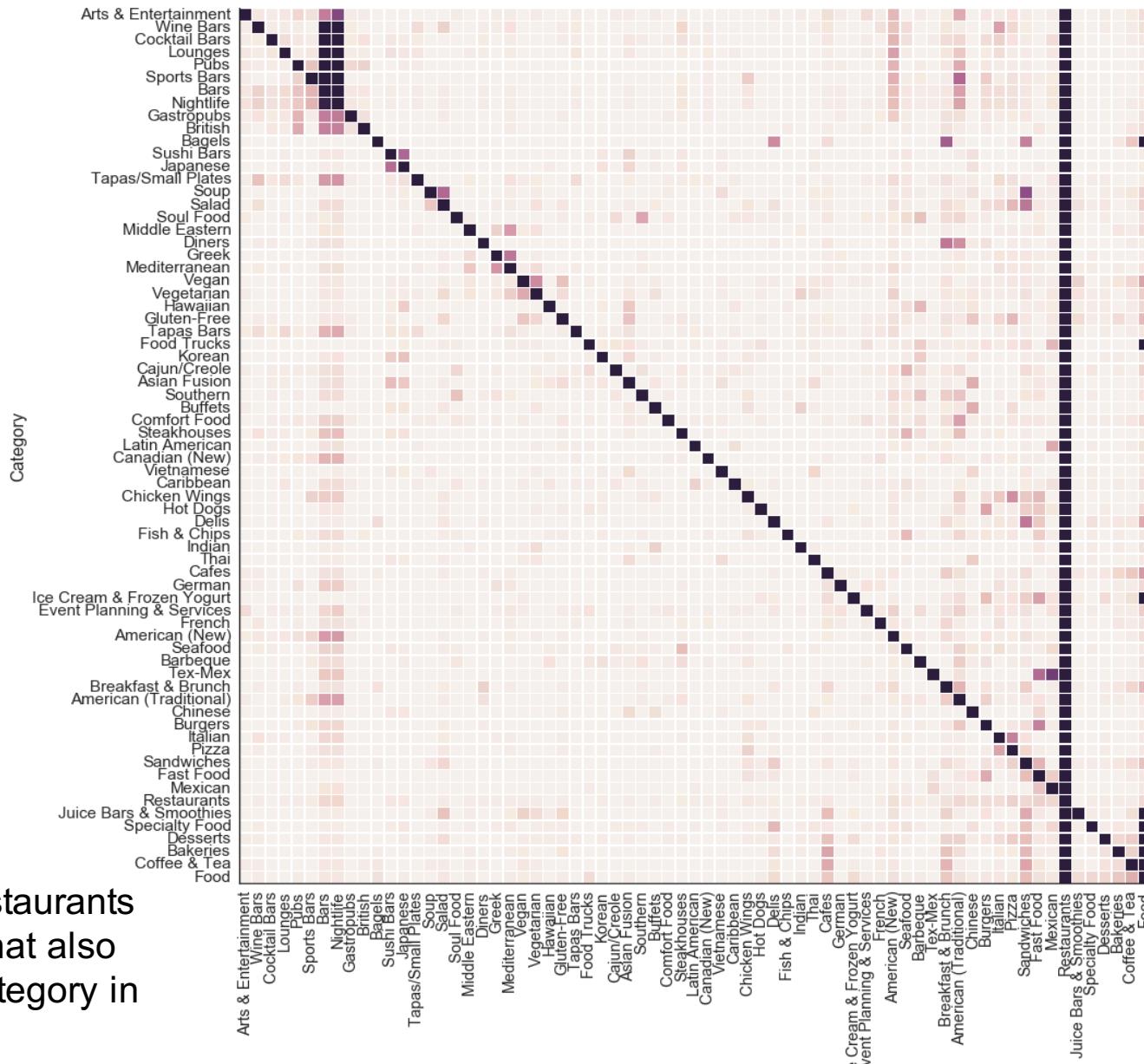
Avg Checkins



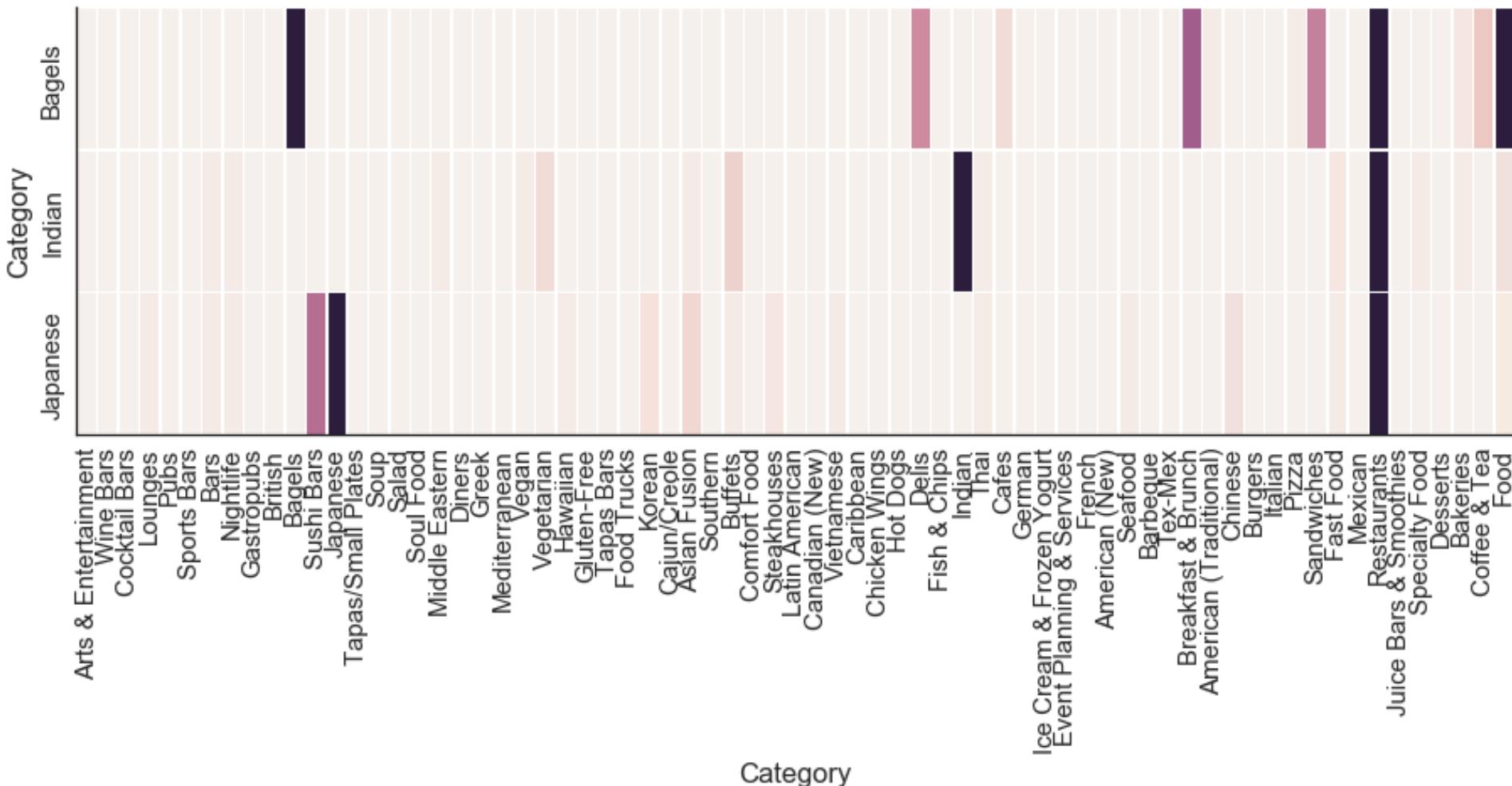


Older
businesses
can't maintain 5
stars

Restaurant categories overlap

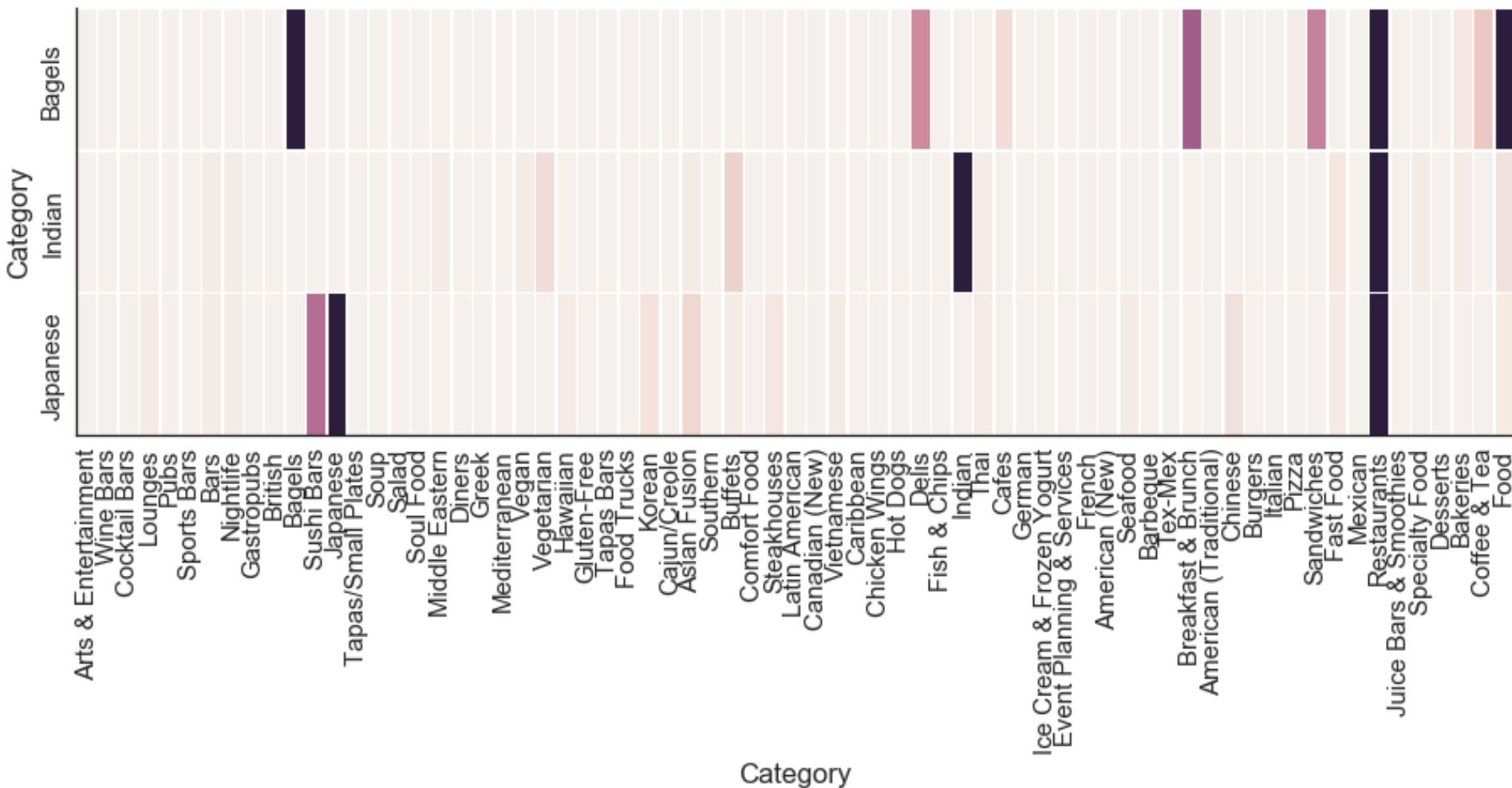


Bagels are difficult to categorize



Bagels are difficult to categorize

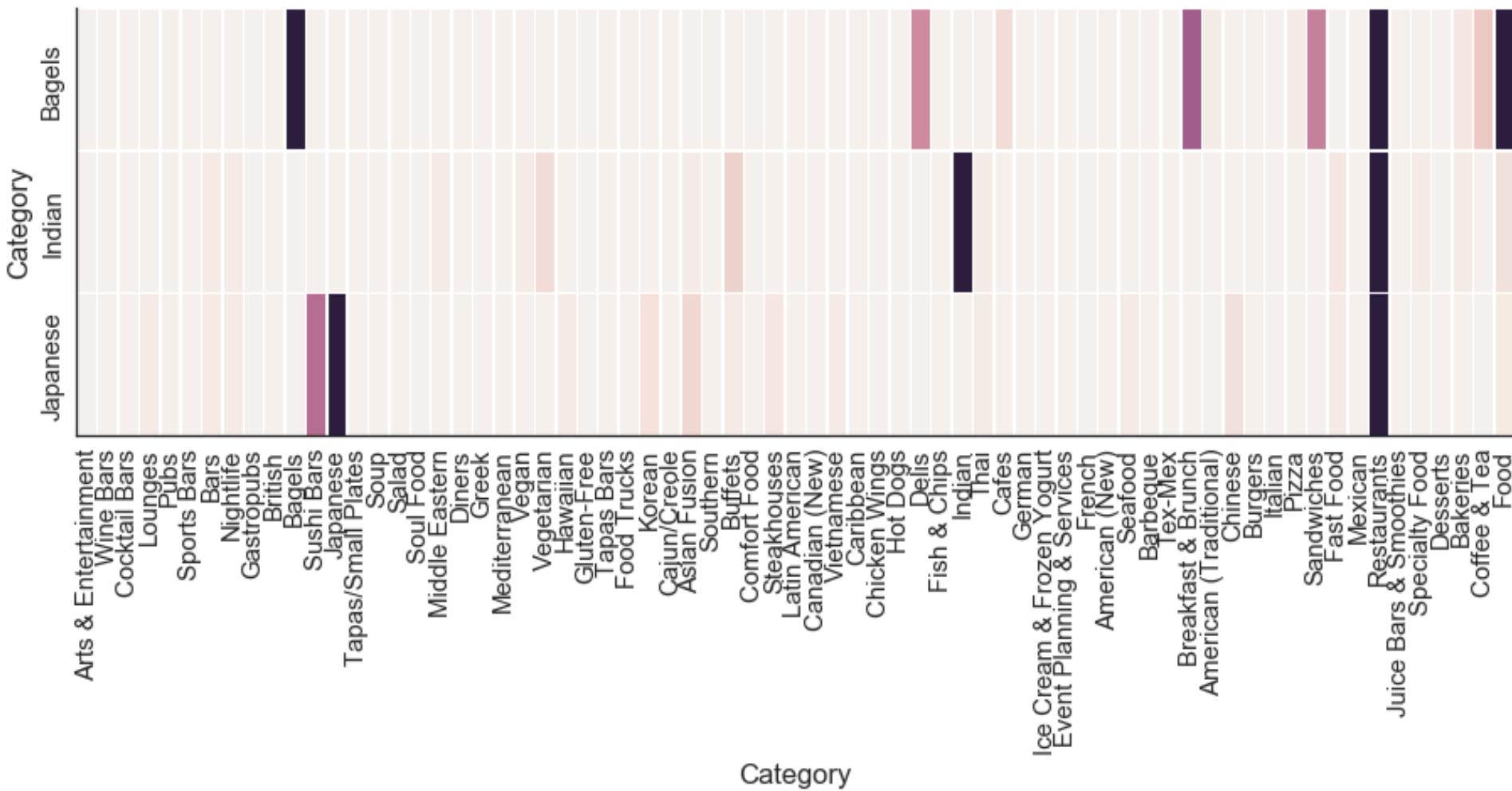
Indian food doesn't overlap as much



Bagels are difficult to categorize

Indian food doesn't overlap as much

~50% of Japanese restaurants serve sushi



All Restaurants




This word cloud focuses on reviews related to the Bellagio Fountain Show in Las Vegas. It highlights specific dining experiences and the overall atmosphere of the area. The words are color-coded to reflect different aspects of the dining experience.

Click me

Next steps

- Move local prototyped analysis into real-time system
- Finish predictive model of review ratings
- Finish image captioning
- Learn how to make charts in Javascript