

Traveling Eats

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github.com/AeroGeekDean/traveler_eats_recommender

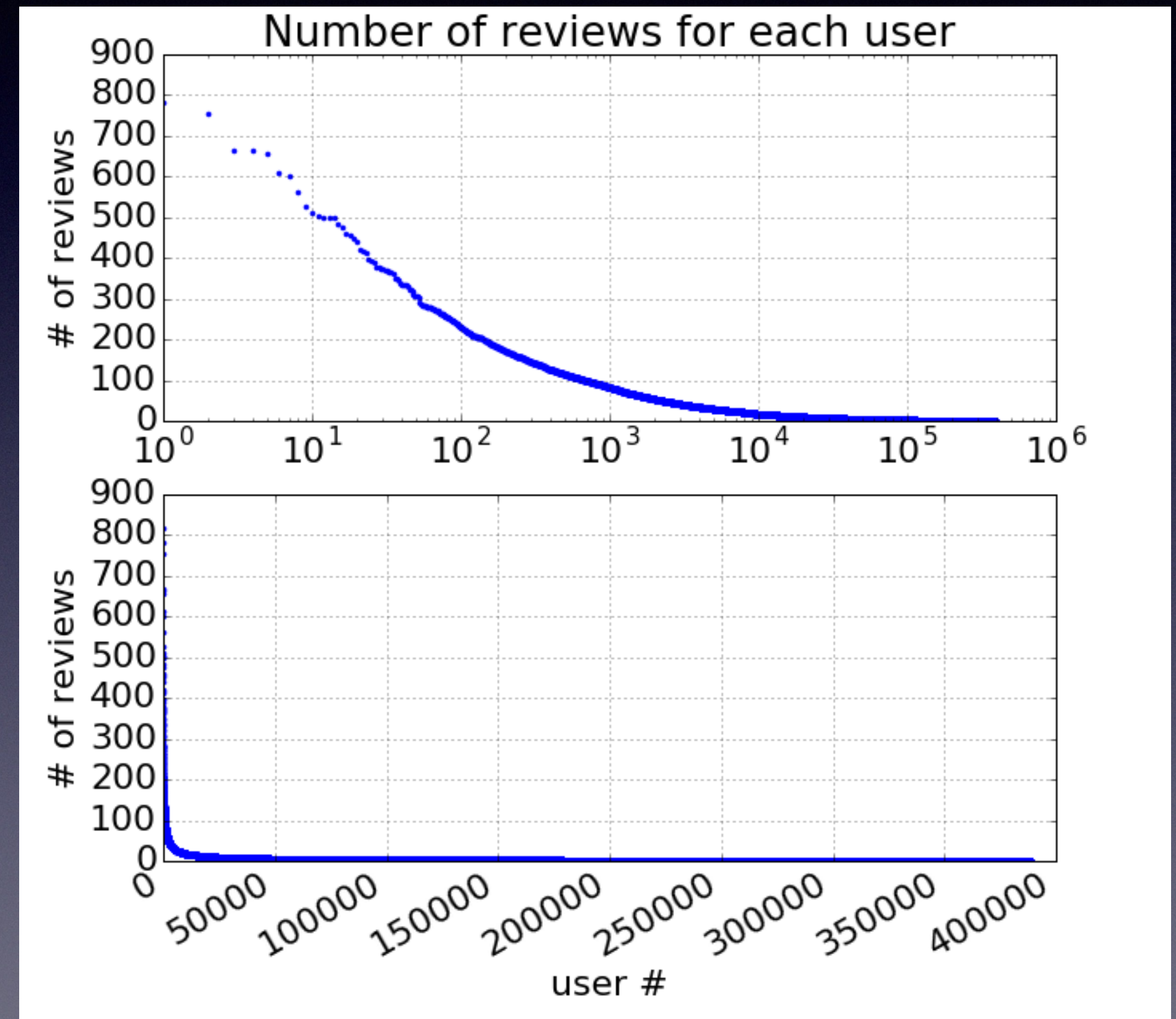
Can a recommender be built to
provide bespoke restaurant
suggestions while in a new city??

Yelp! Academic Dataset



People's review patterns are skewed!

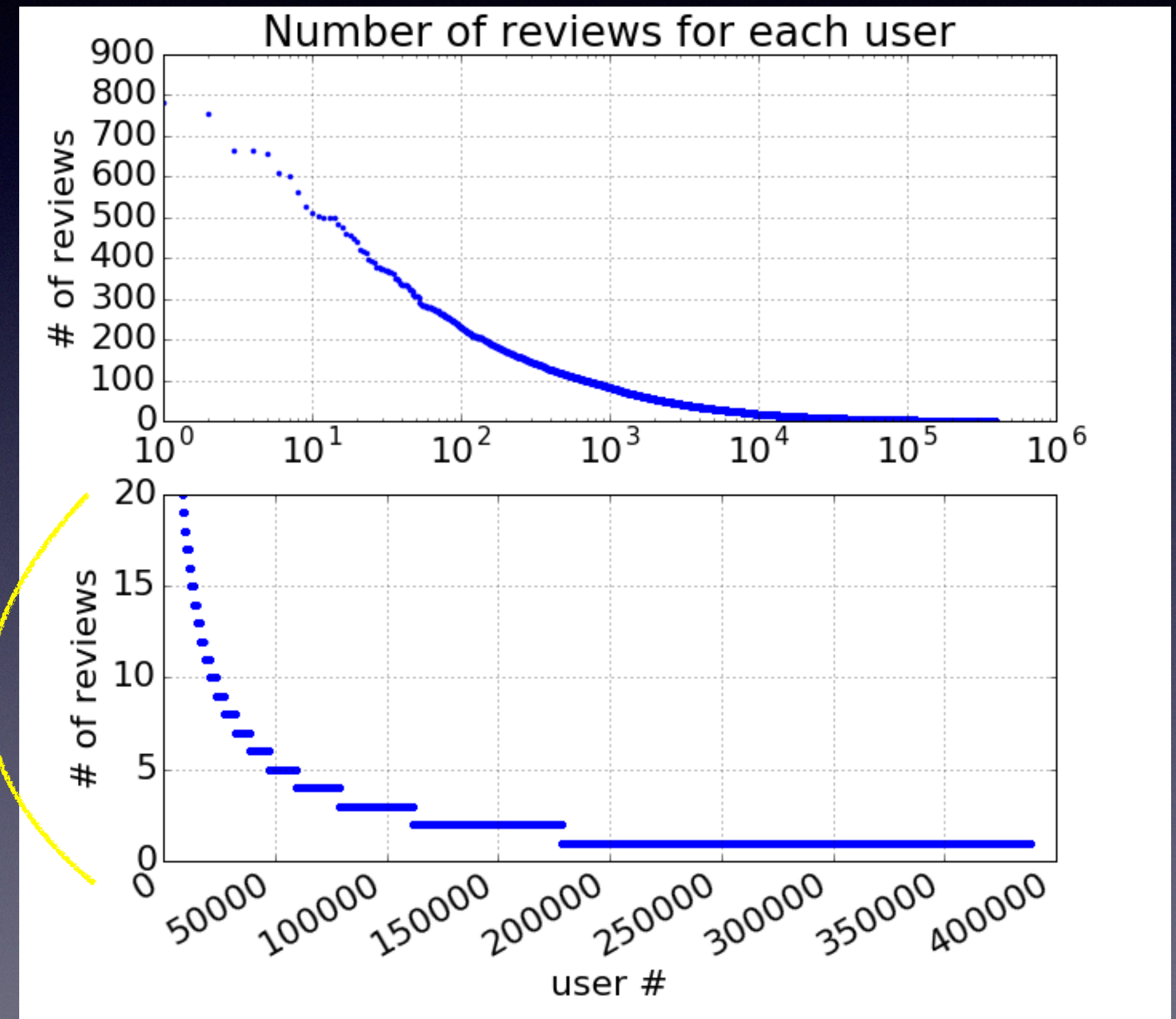
- A few users wrote a TON of reviews
 - 1 User wrote 800+ reviews
 - Some even wrote multiple reviews (29!) for the SAME restaurants!
- Vast majority of users wrote < 5 reviews



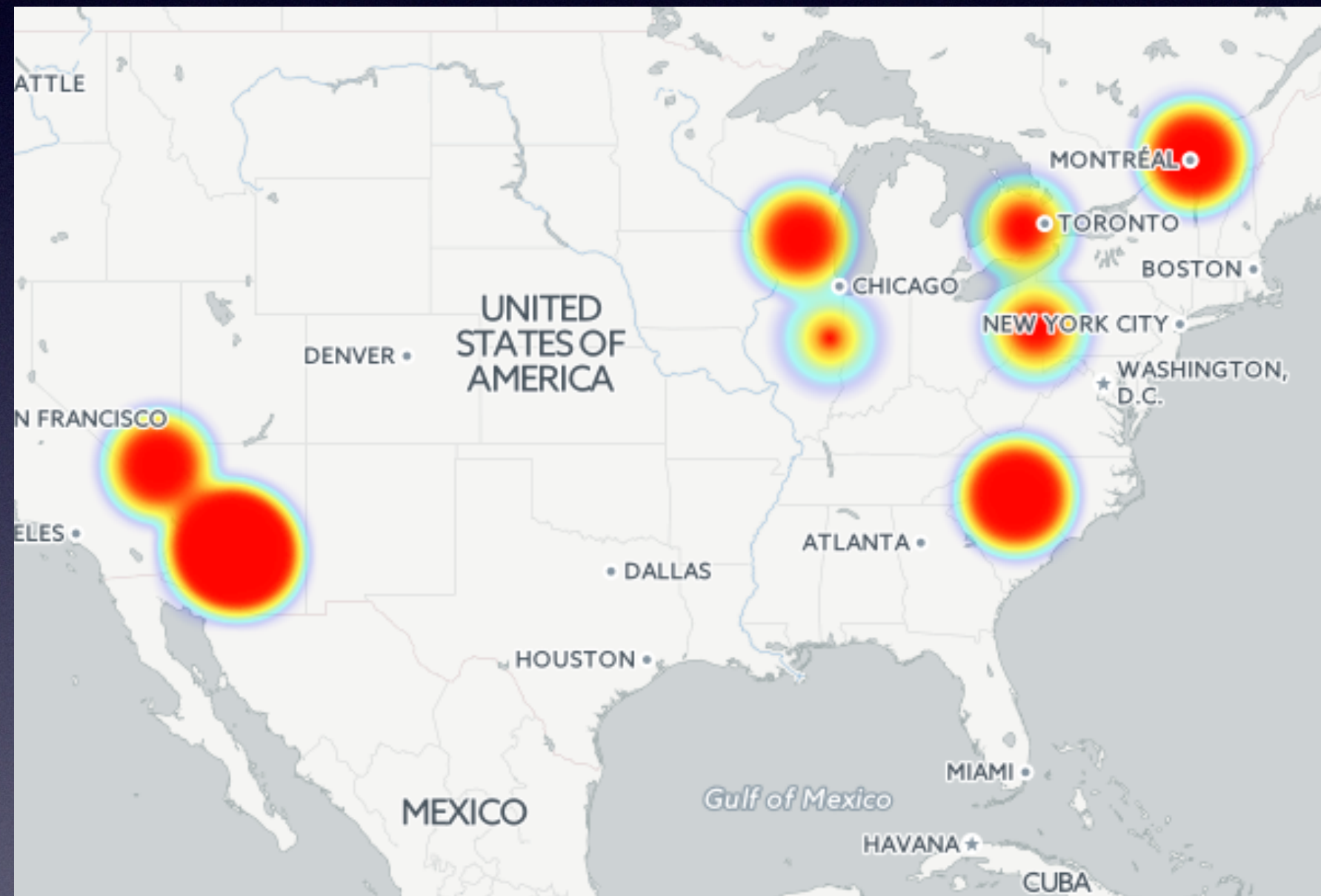
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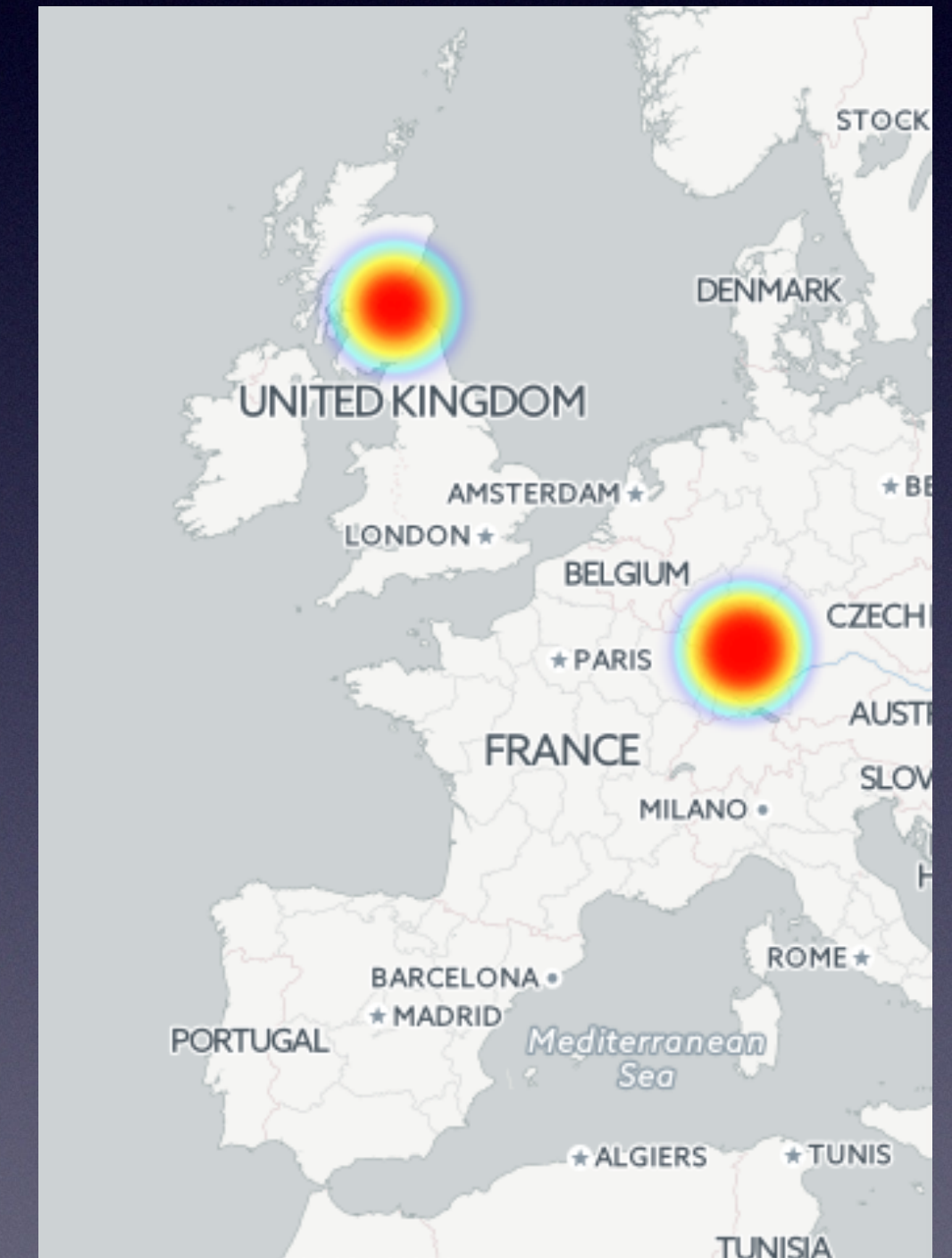
Y-axis zoomed-in —>



Dataset is **really** sparse in locality



- Restaurants are geographically locked (Except maybe traveling food trucks?)
- Users mostly review restaurants within their locale
- Unlike Netflix or Amazon



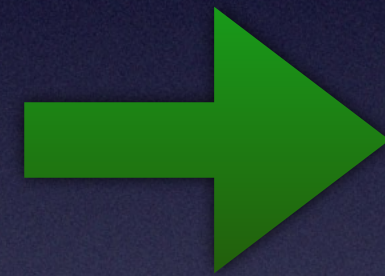
Alternate Strategy

1. Matrix Factorization to extract User-to-Latent_feature relations
 - matrix [U]
2. Select a Test Subject from existing pool of users
 - Who has ($5 < \text{reviews} < 10$)
3. Find k-number of similar users
 - Cosine Similarity
4. Extract reviewed restaurants from these similar users
 - Filter by locale of interest
 - Prioritize by review scores

An example

- User name: **Susan**
- Highly rated restaurants:
 - *'Portillo's Hot Dogs'*
 - *'Sakana Sushi & Grill'*
 - *'J & G Steakhouse'*
 - *'El Chorro'*
 - *'Basil & Garlic Bistro'*
- 'Home' locality: **Phoenix, AZ**

Traveling to



- New locality: **Las Vegas, NV**
- Similar users: [George, Roberta, Caleb,...]
- Recommended Restaurants in Las Vegas:
 - *'Public House'* [Gastropubs, 3.5*]
 - *'A Thyme For All Seasons'* [Cafes, 3.5*]
 - *'Kabuto'* [Sushi Bar, 4.5*]
 - *'Echo & Rig'* [Steakhouses, 4.5*]
 - *'The Goodwich'* [Sandwiches, 4.5*]

Follow-on Ideas

- Re-try using “Item side-data”
(restaurant attributes & categories)
- Try Social Graph method
 (“Your friends also liked restaurant X...”)

Traveling Eats

A Yelp restaurant recommender for while on travel

Questions?

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