Restaurant Recommendation System

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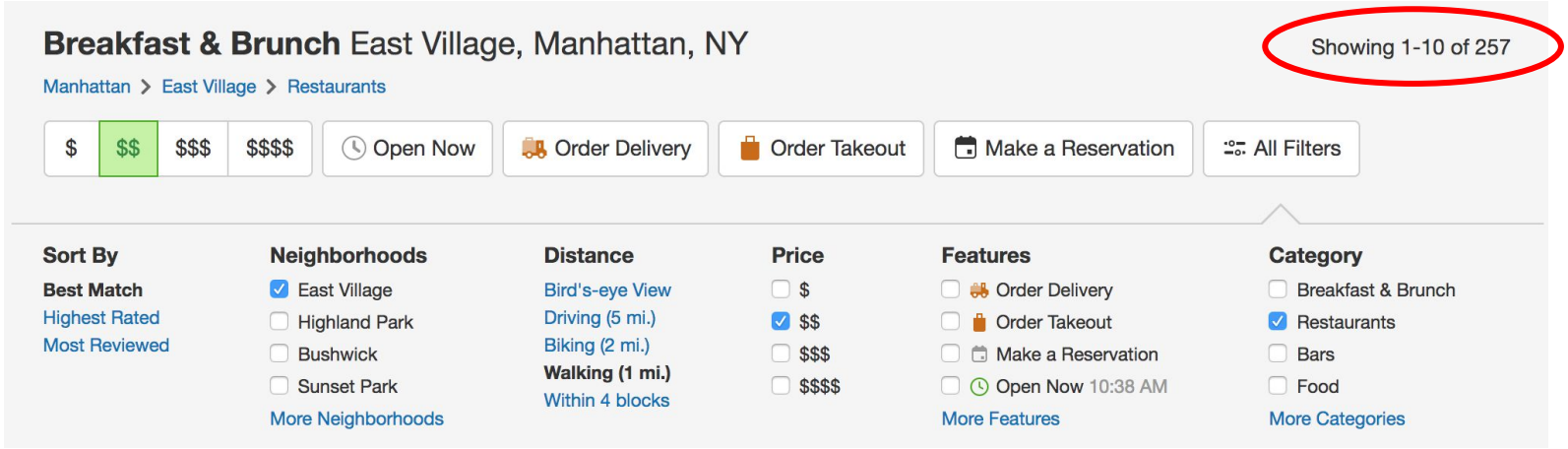
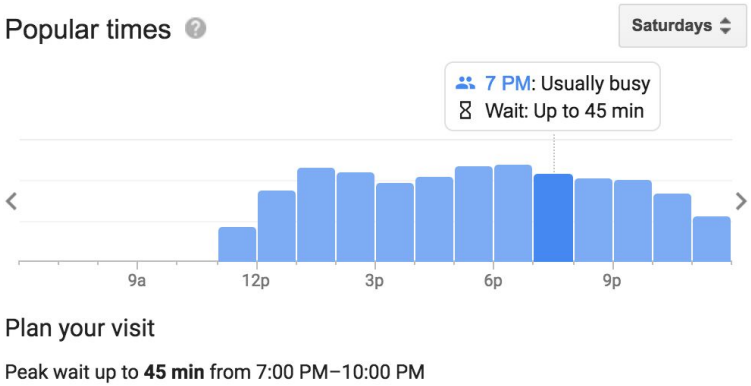
Want to try something new, but not sure where to go?

- Too many options on Yelp
- No tailored recommendations



Features and Labels

- User's restaurant ratings
- Cuisine preferences
- Restaurant's average rating
- Restaurant review count
- Location
- Price range
- Ambience
- Hours
- Popular times
- Dietary restrictions
- ...



Data Sources

The Dataset

5,200,000 reviews

174,000 businesses

200,000 pictures

11 metropolitan areas

1,100,000 tips by 1,300,000 users
Over 1.2 million business attributes like hours, parking, availability, and ambience
Aggregated check-ins over time for each of the 174,000 businesses

1. Las Vegas
2. Phoenix, AZ
3. Charlotte, NC
4. Cleveland, OH
5. Pittsburgh, PA
6. Champaign, IL
7. Toronto, ON
8. Montreal, QC
9. Edinburgh, UK
10. Chester, UK
11. Stuttgart, DE

yelp fusion

Google Places API

Algorithms to try

- Collaborative filtering
  - Baseline - average ratings
  - Memory-based
  - Clustering
  - Matrix factorization
  - Bayesian Personalized Ranking
- ...

Web app blueprint

- Ask user for a list of their top restaurants
- Use list to infer preferred cuisine, price range, location, ambience, etc, or explicitly ask user to specify.
- Use ML algorithm to output recommendations based on what Yelp reviewers with similar tastes have rated highly.
- Recommendation to take into account when the user intends to dine