Yelper for Business Owners

Aspect Based Sentimental Analysis on Yelp reviews

GROUP 1

XINKAI CHEN

WENBO FEI

GUANQI LU

LOKESWAR SADASIVUNI

Outline

Presentation 2

Problem Statement

Proposal & Evaluation

Shiny APP - Yelper

Questions & Answers

Problem Statement

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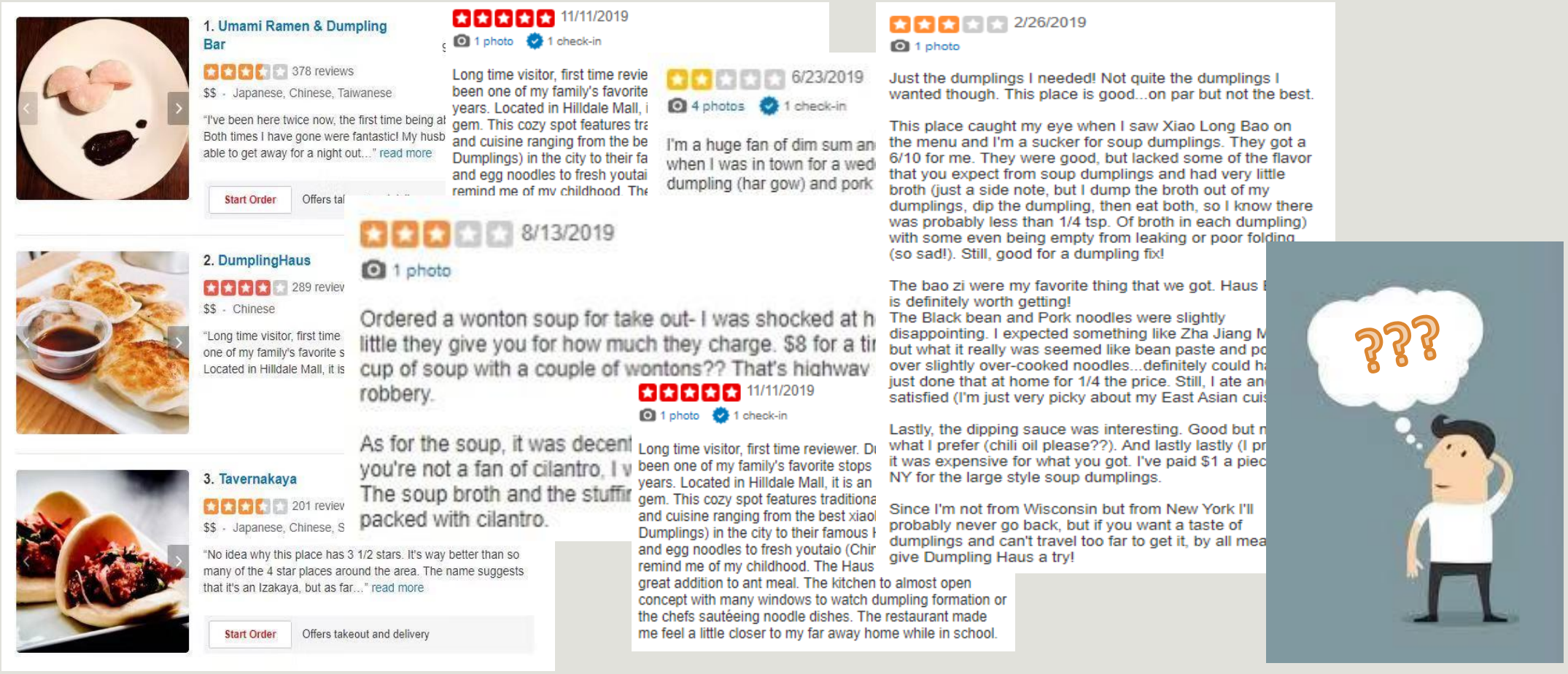


Proposal & Evaluation

Model Proposal

Aspect Based Sentimental Analysis:

- **Food**
- **Service**
- **Ambience**
- **Price**
- **Miscellaneous**

Model Proposal

- Positive & negative score from ***Aspect Based Sentimental Analysis*** :

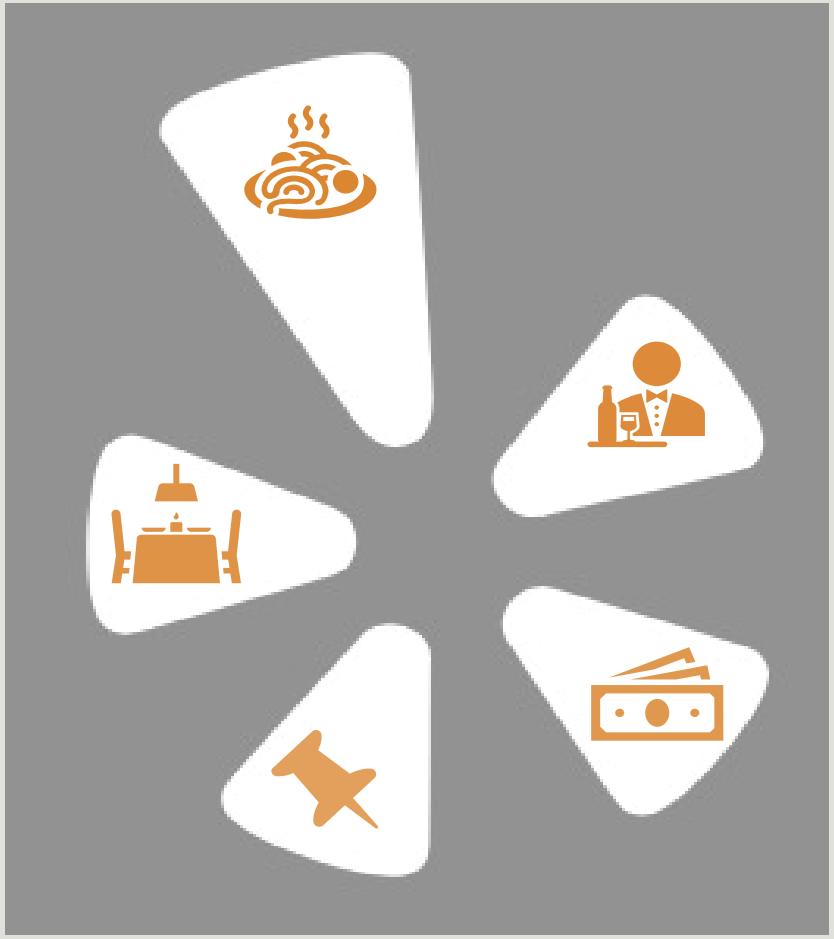
food.pos	food.neg	service.pos	service.neg	ambience.pos	ambience.neg	price.pos	price.neg	misc.pos	misc.neg
59.50	-16.5	47.0	-24.00	20.50	-1.0	1.0	-7.0	5.5	-3.0

- Calculate score for each category, take "Food" as an example* :

$$\texttt{adj.fp} = \frac{\omega_{f.pos} * \texttt{fp}}{\omega_{f.pos} * \texttt{fp} + \omega_{f.neg} * \texttt{fn}}$$

* adj.fp: score for Food; adj.fp will be normalized to 0-5 scale;
$\omega_{f.pos}$: weight of fp; fp: food.pos/review.counts of the business.

Model Evaluation

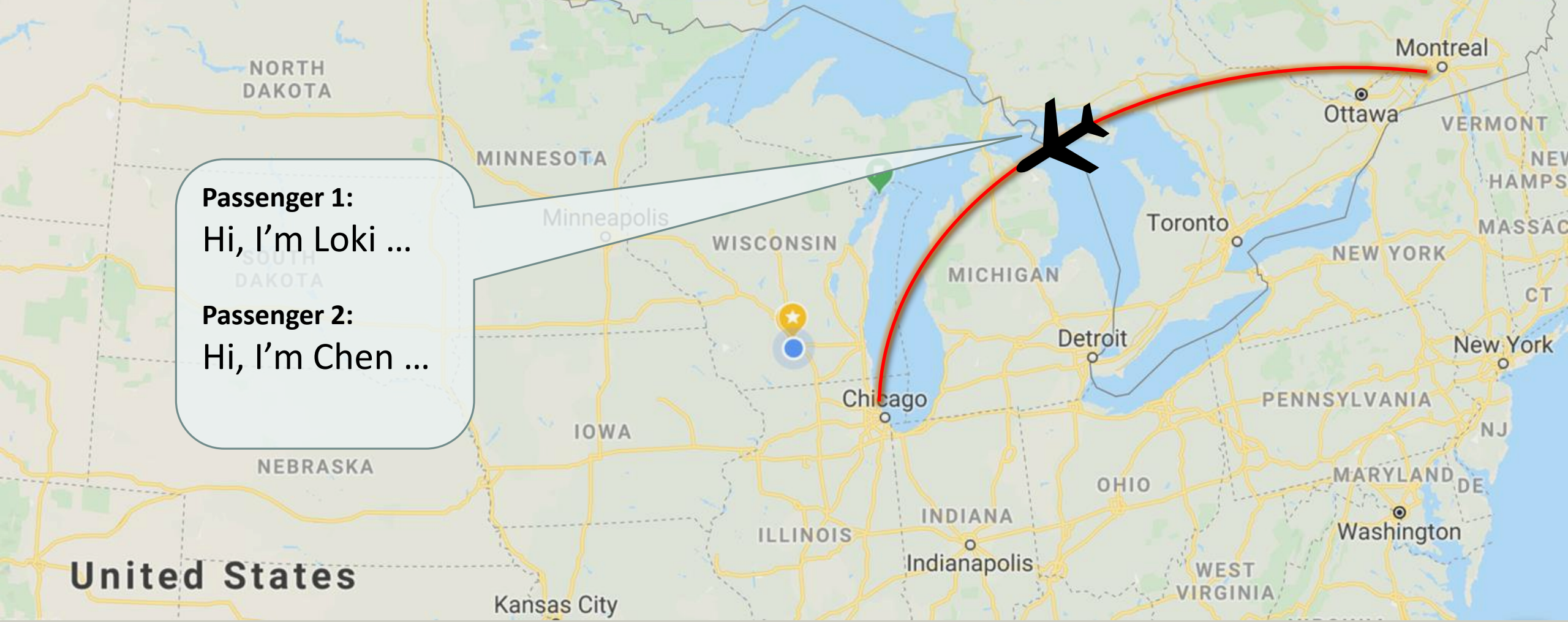


Significance* **5/5**

Accuracy** **75%**

*Statistically significant detecting whether a restaurant is good;
**Accuracy calculated by leave-one-out cross validation;
Note: Evaluation based on GLM: star ~ category scores.

Shiny APP - Yelper



Flight from Montreal to Chicago…

Questions & Answers

Happy Thanksgiving!