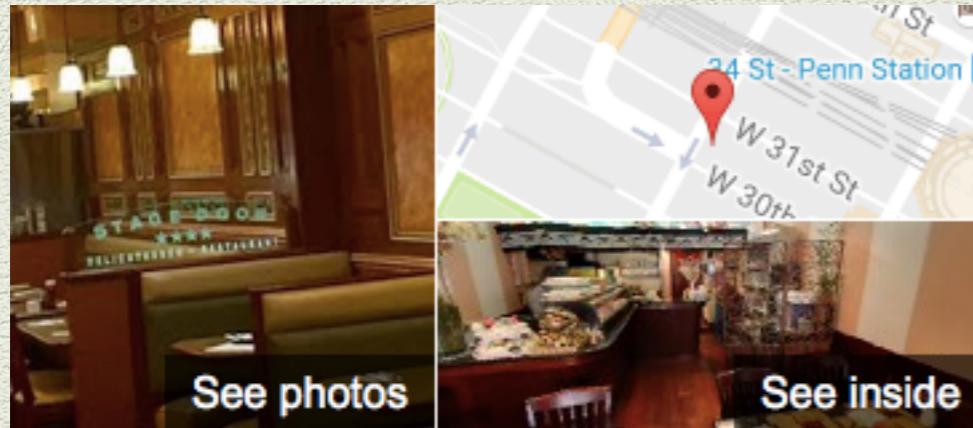




Predicting Restaurant Ratings from Written Reviews

Rebecca Hyde

Collected Restaurant Reviews & Star Ratings



[See photos](#)

[See inside](#)

Stage Door Deli & Restaurant ★

[Website](#)

[Directions](#)

3.7 ★★★★☆ 59 Google reviews

\$\$ · American Restaurant · Manhattan

Giant corned beef & pastrami sandwich
pickles plus full meals in a diner setting

Address: 360 9th Ave, New York, NY 10001

Phone: (212) 868-9655

Menu: [stagedoordelinyc.com](#)

E **Ellin Barrow**
a month ago

★★★★★ The worst.once it changed owners.the servings were harsh to him and they were so rude.never going back .very sad

- ◆ Google Places API
- ◆ 15,136 unique written reviews & star ratings of restaurants in SF, NYC, Philly, LA, Houston, and Chicago

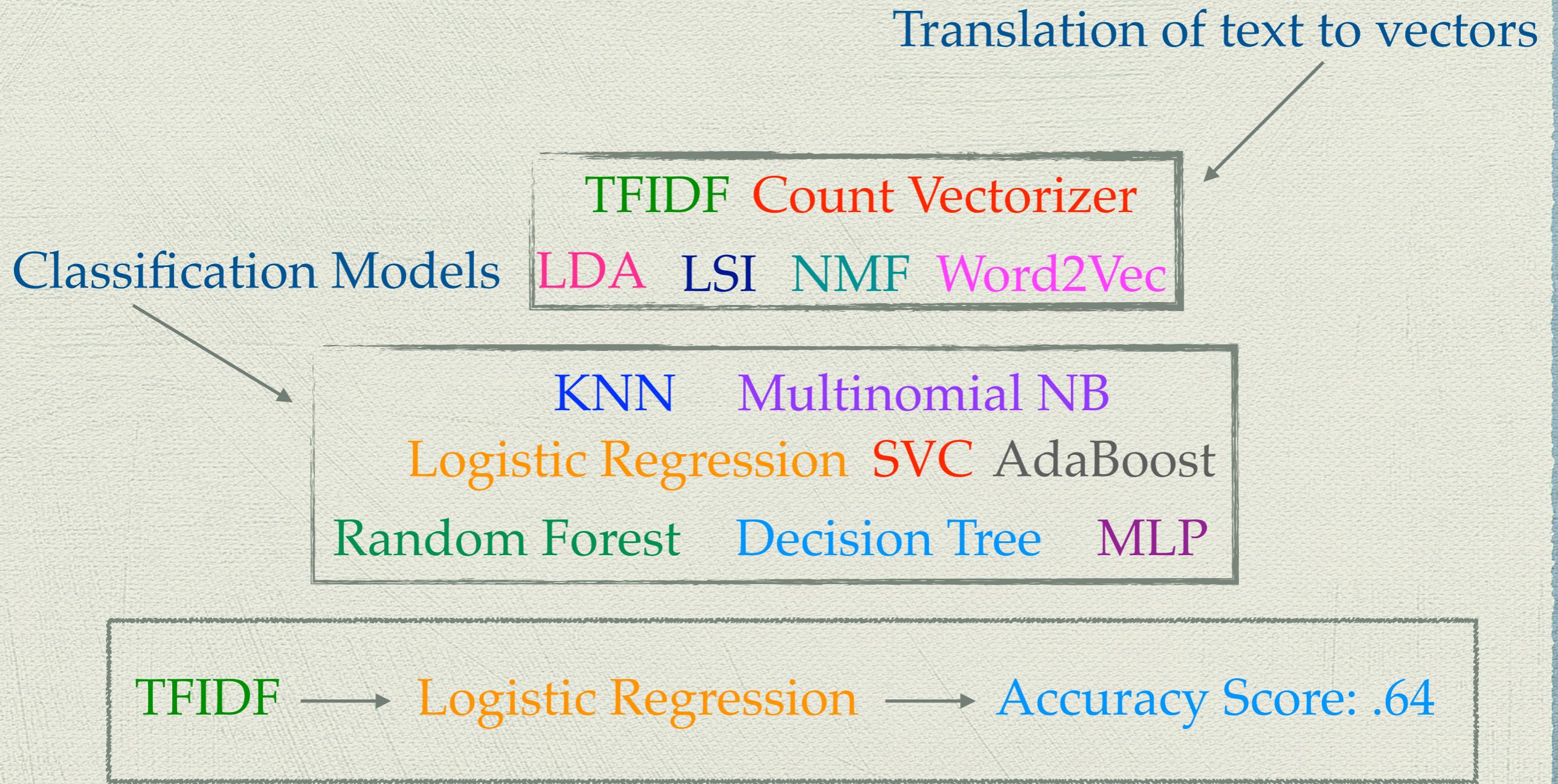
D **David Morris**
2 months ago

★★★★☆ Great service, and classic old new york atmosphere, but really mediocre food. My pastrami was dry, and other people's meals looked like they were from a hospital cafeteria. Not worth the high prices.

 **casey blanton**
a month ago

★★★★★ Very good place for breakfast with excellent service.

Can we predict star ratings from text?



Can we predict a negative / neutral / positive rating from text?

1 & 2 star rating:



3 star rating:



4 & 5 star rating:



TFIDF → Logistic Regression → Accuracy Score: .85

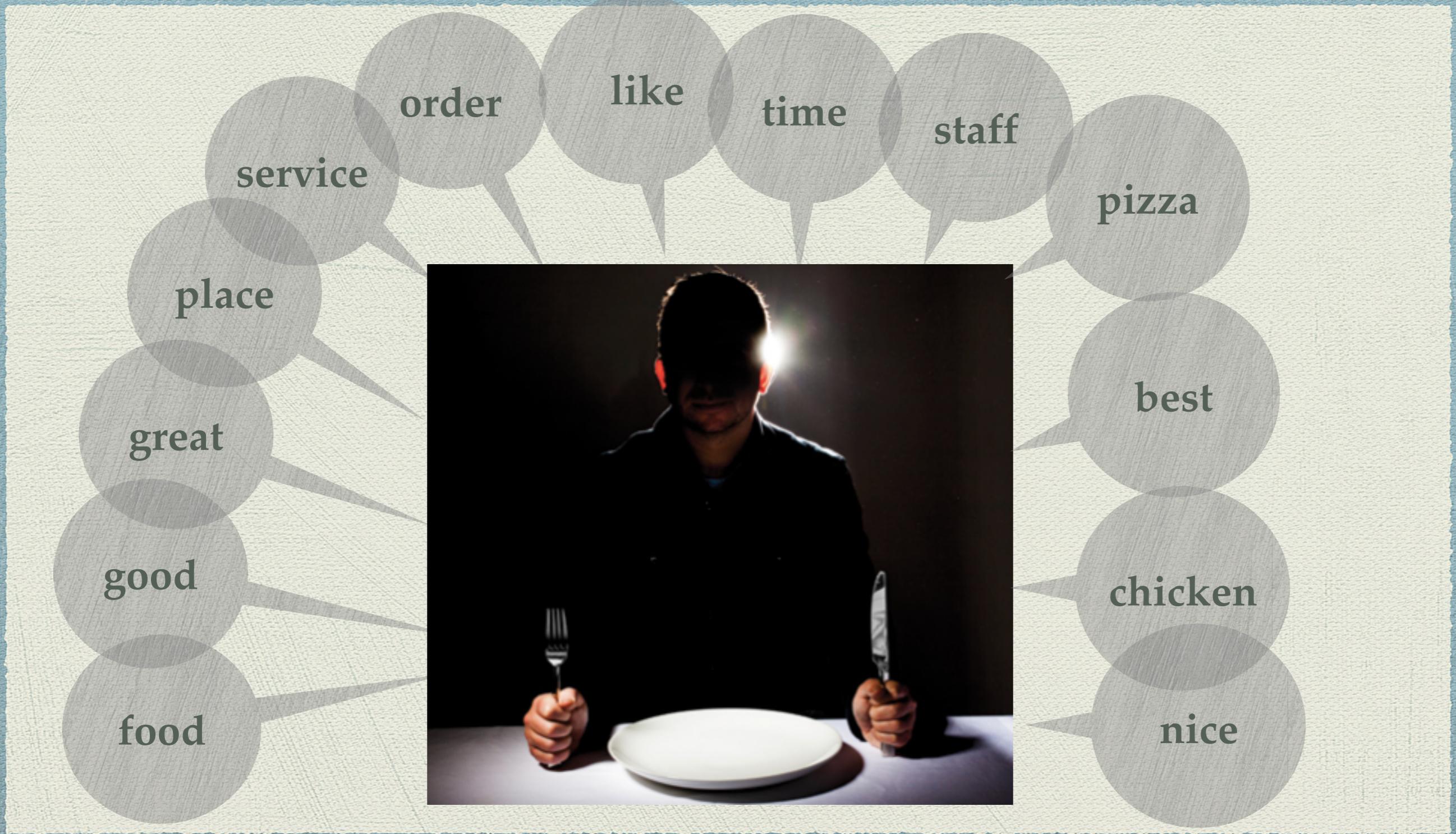
Uses

- ◆ Remove the need for a reviewer to enter a rating along with their written review
- ◆ Normalize ratings by directly correlating review text to a rating

Thank you!

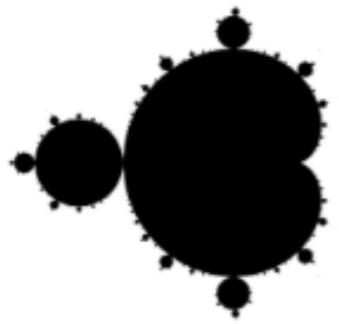
Appendix

Most Used Words in Restaurant Review Dataset



Dataset Star Ratings Distribution

Star Rating	Number of Star Ratings	Percent of All Star Ratings
*****	6374	42%
****	3217	21%
***	1529	10%
**	989	7%
*	3027	20%



TextBlob

says...

- ◆ Polarity: .21 —> All reviews together have slightly more positive statements
- ◆ Subjectivity: .57 —> Slightly more subjective / opinionated text (rather than objective text)

Price Level Distribution

Price level	Price Level Defined	Number in Price Level	Percent of All Star Ratings
0	Free	0	0%
1	Inexpensive	7684	51%
2	Moderate	6388	42%
3	Expensive	933	6%
4	Very Expensive	131	1%