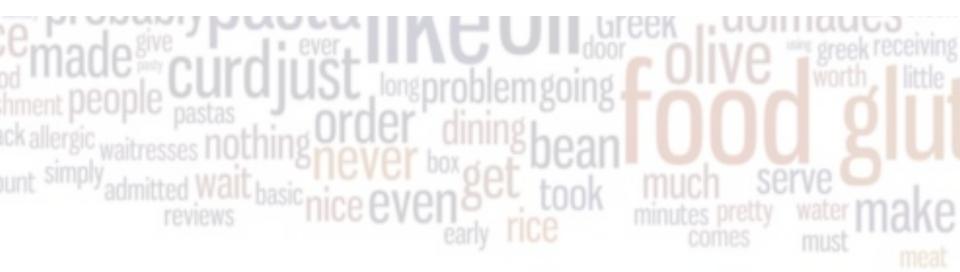


What are in 3-Star Reviews?

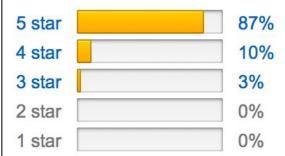
Pei-Pei Liu



Customer Reviews



4.8 out of 5 stars *



See all 38 customer reviews >

"Great evening, extremely good value"

Search

● ● ● ● ■ Review of L'Ange 20 Restaurant

I went to this place with my boyfriend for a special occasion and we were not disappointed. We were greeted warmly by Christopher who guided us through the menu and wine. The food was delicious and I only wish that we could have had room for three courses. The value was 7:42 AM

excellent compared to hard to match during

I had the lamb which

●●●●● Value

Was this review helpful?

Remember, businesses can't pay to alter or remove their reviews.

Amba

As an American Israeli I always have high

expectations in restaurants for both incredible food and nice gestures by service providers....



3 months ago

1 month ago

•

NEW

sphere





Dr. Shahid Hasnain, MD

Pediatrician



Practice Gen

Lana

♦0 41 **□** 31 **回** 13

Vicki S.

Dragonfly L.

44 0 D1 00

0 1 0 2

I really want to love this place, it's one of my favorite cuisines, but I got the chicken shwarma platter today - with tax it came to 1...

John N. ** 86 **2** 2 0 0

3 months ago

It was our first time in Amba although we have a business in the neighborhood and we were

See all 7 photos

Qualifications and Experience Board Medical School - Dow University of Health Sciences Education Lincoln Hospital, Internship in Pediatrics In-Ne Saint Luke's Episcopal Hospital Hospital Affiliations Texas Children's Hospital Memorial Hermann Sugar Land Hospital Spec









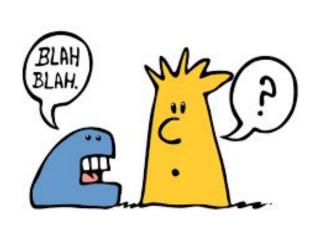








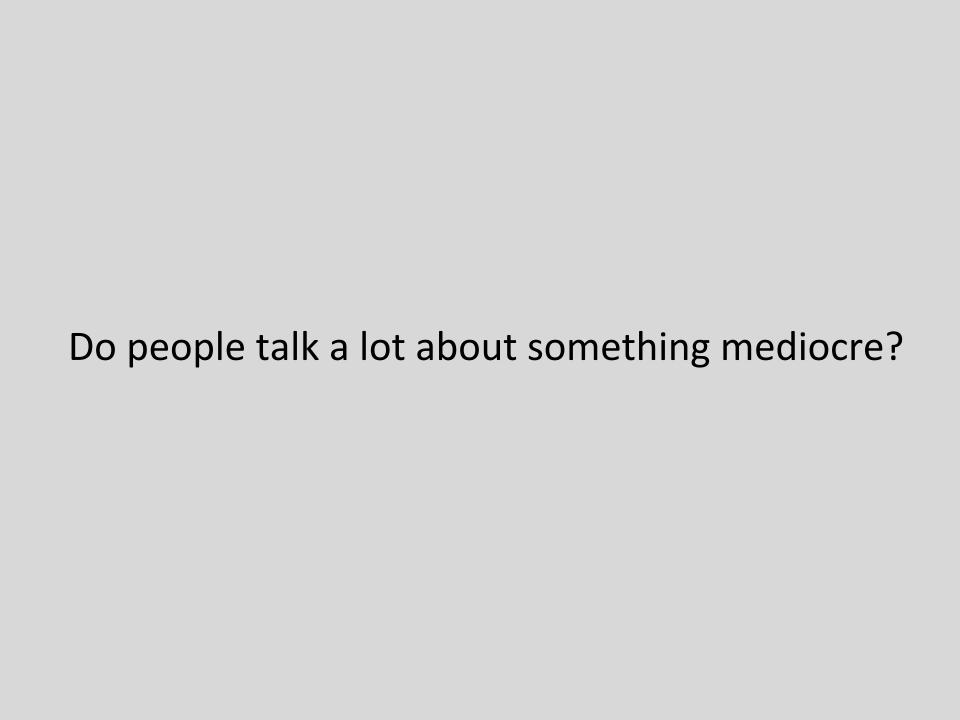
Everything mediocre? Mixture of GREAT and Horrible?

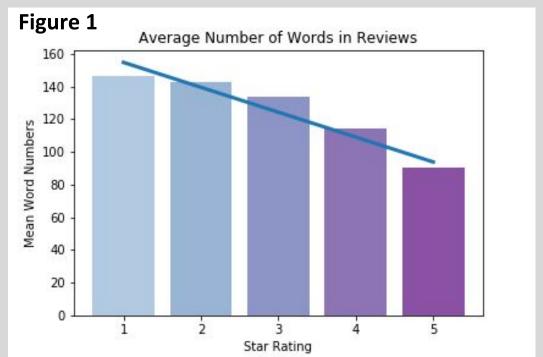




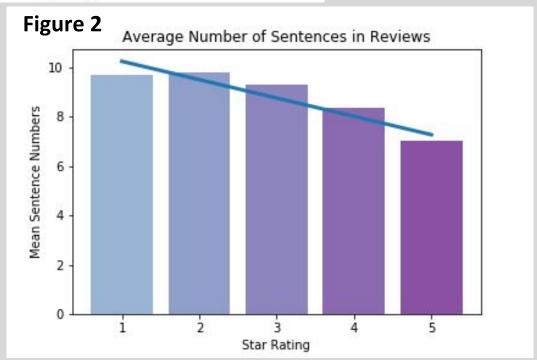


100k Yelp Reviews



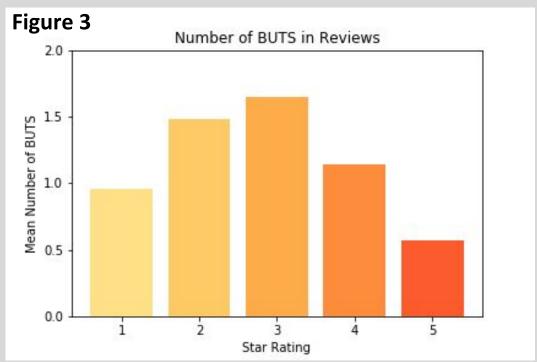


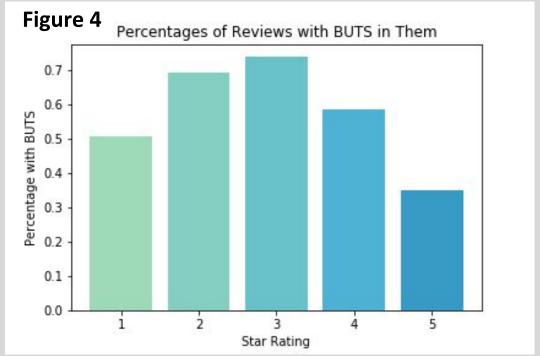
- Used spaCy to tokenize reviews into words and sentences
- Used linear regression to examine review length and star rating



What do people actually say?

Something is great, **HOWEVER**.....





Most Frequent Words



never bad manager leave



but
bad
good
great
nice
pretty
star



good great nice friendly delicious definitely love amazing awesome

. . .

Ask the Machine

So far: 3-star is a mixture of good and bad.

but are they good, or bad?

Let's ask the model!

The Model

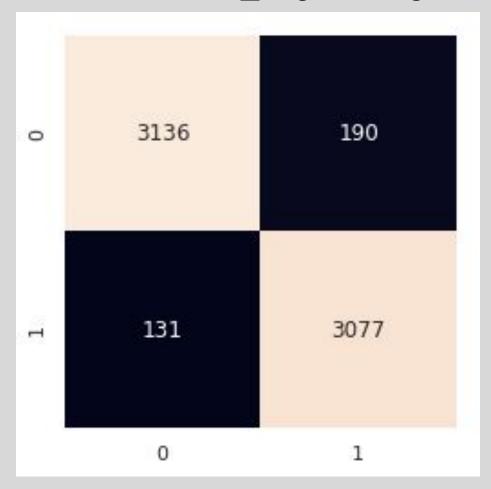
- Model was trained to classify 1-star and 5-star reviews
- Feature: doc2vec
 - word2vec model trained using all 100k reviews (gensim)
 - averaged word2vec for each review
- train_set: 1-star + 5-star 10000 each
- test_set: 1-star + 5-star 3267 each

Model Performance

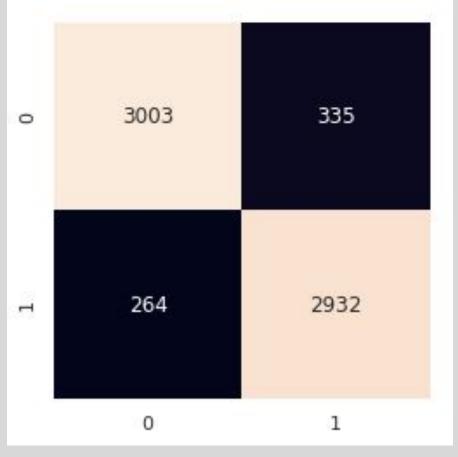
	training score	test score	
GaussianNB	0.79435	0.79384	
Logistic	0.9535	0.95056	
RandomForest	0.9992	0.89348	
ExtraTrees	0.99995	0.91307	
SVC	0.95555	0.95071	

Confusion Matrix_LogisticRegression

0: 1-Star1: 5-Star



Confusion Matrix_ExtraTree



Ask the Model Classifying 3-Star as 1 or 5

	training score	test score	3-star as 5-star
GaussianNB	0.79435	0.79384	0.46192
Logistic	0.9535	0.95056	0.52113
RandomForest	0.9992	0.89348	0.55983
ExtraTrees	0.99995	0.91307	0.61700
SVC	0.95555	0.95071	0.52401

Tools used

- pandas, numpy: general data processing
- NLTK: word and sentence tokenizer
- spaCy: lemmatization, sentence tokenizer
- sklearn: CountVectorizer, classification (randomforest, extratrees, GaussianNB, logistic, SVM_SVC)
- gensim: word2vec