You look awesome today!!!

Joy

Sadness

Anger

Disgust

Fear

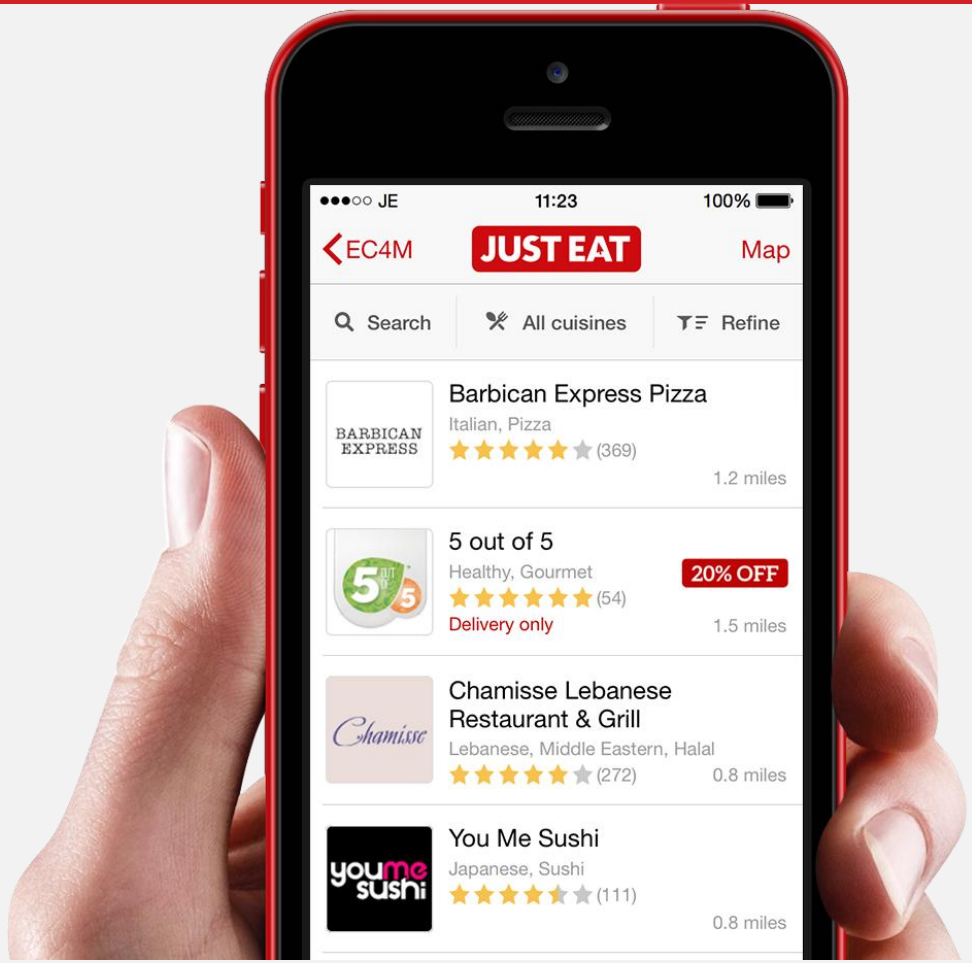
Natural language processing and Sentiment analysis

Rolando P. Hong Enriquez

JUST EAT

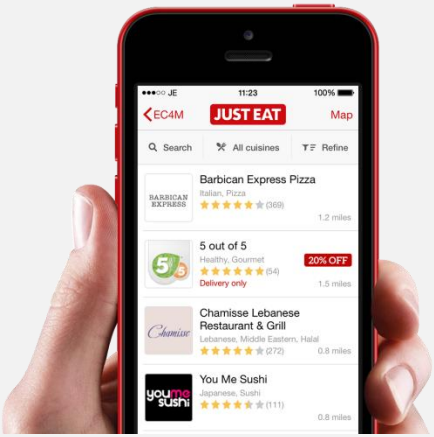
Rolando P. Hong Enriquez

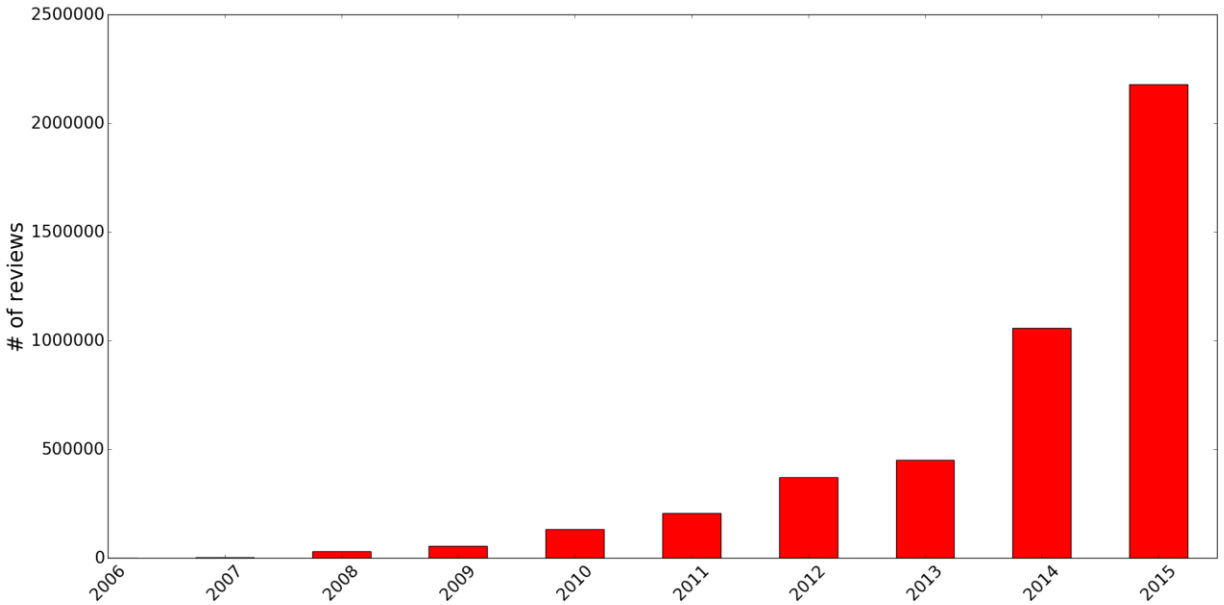
JUST EAT



Rolando P. Hong Enriquez

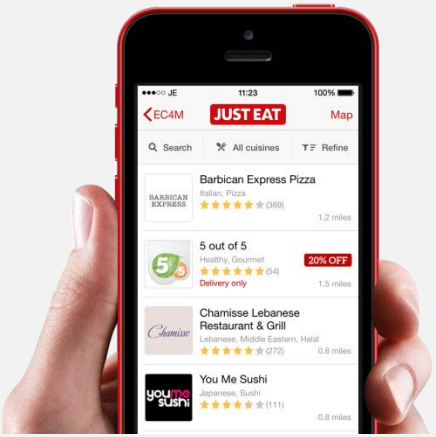
JUST EAT

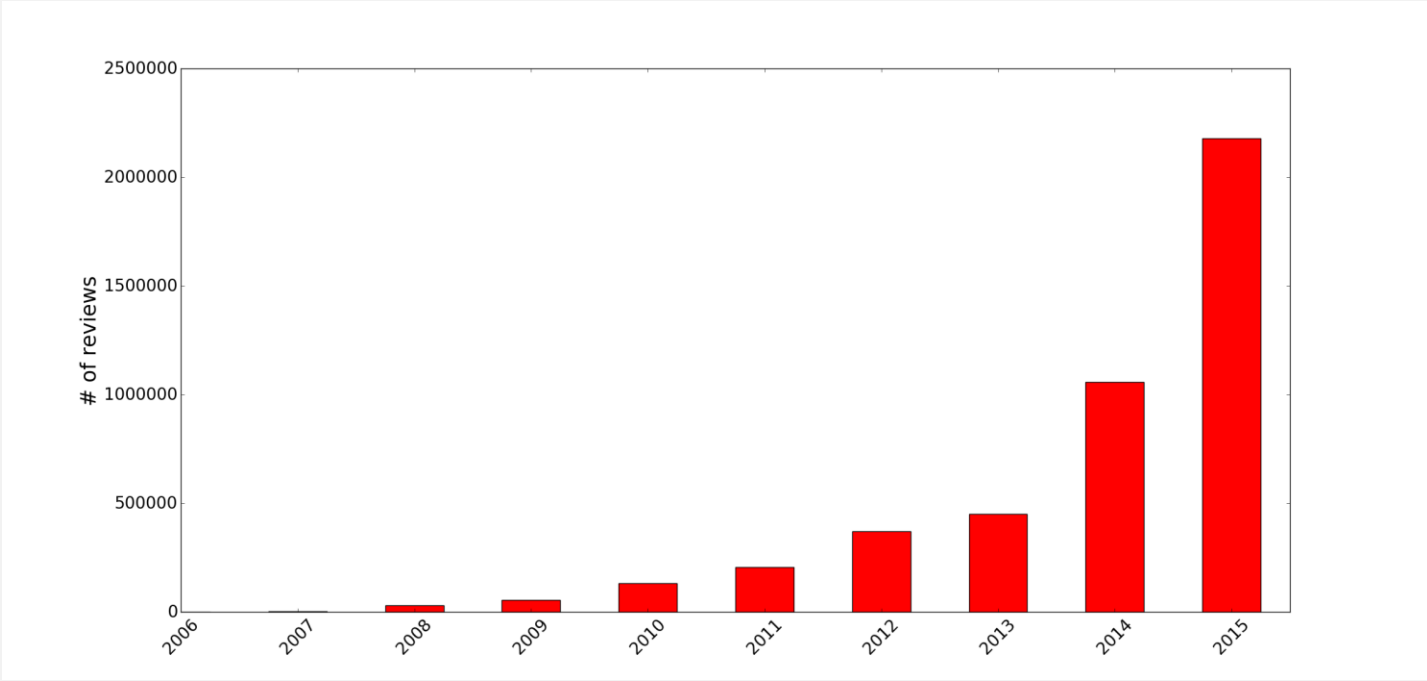




Rolando P. Hong Enriquez

How can we efficiently analyze the sentiment in these data?





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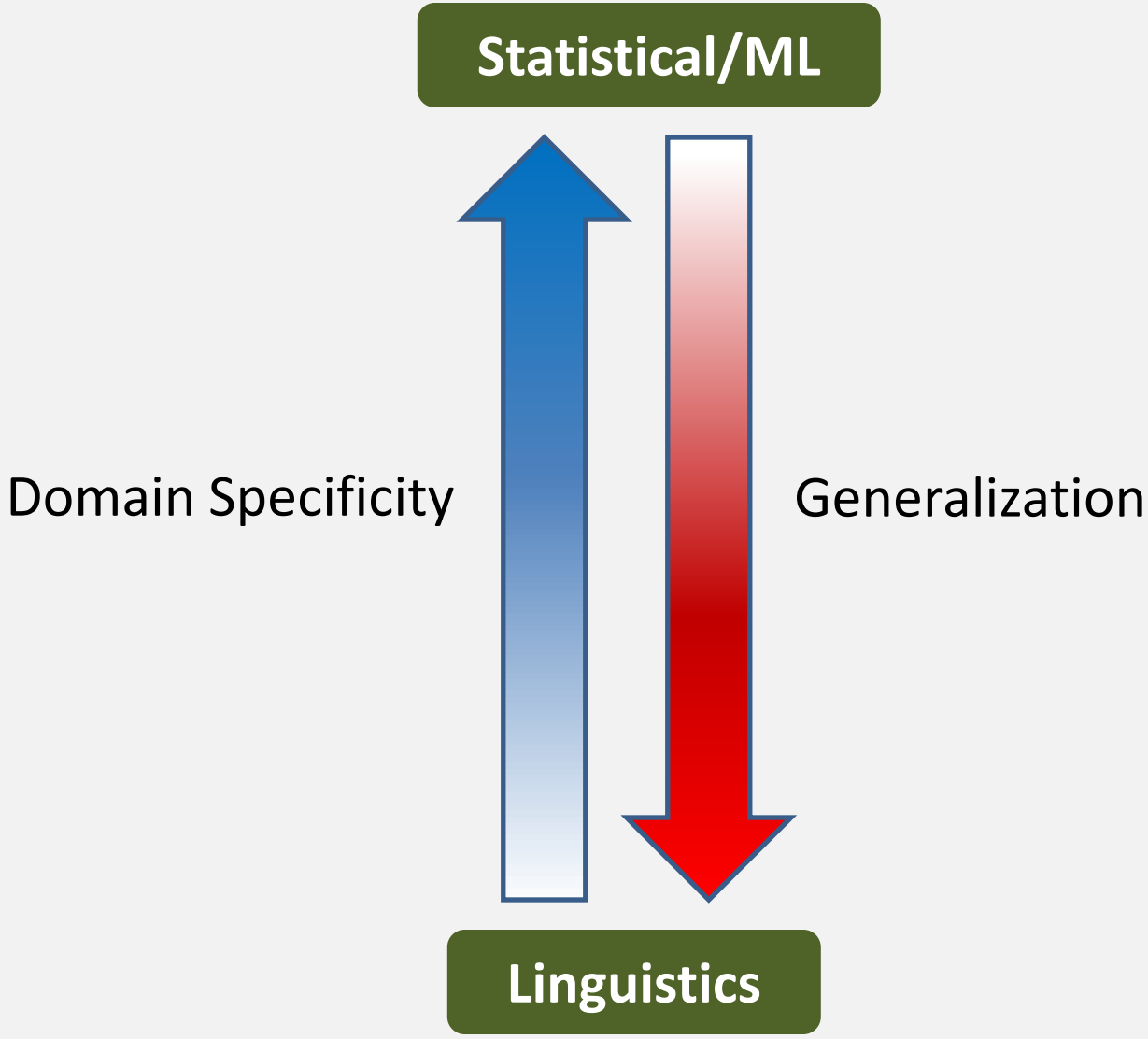
Two Approaches



Two Approaches

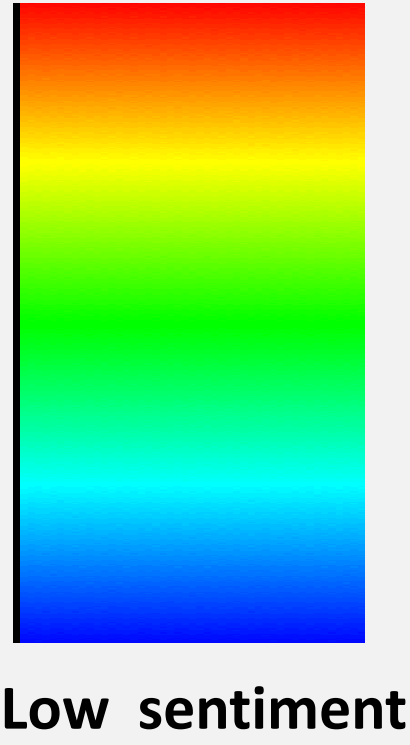
Statistical/ML

+

Linguistics

Goal

['word1' 'word2' 'word3']



THE PIPELINE

["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]

Rolando P. Hong Enriquez

THE PIPELINE

["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]

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THE PIPELINE

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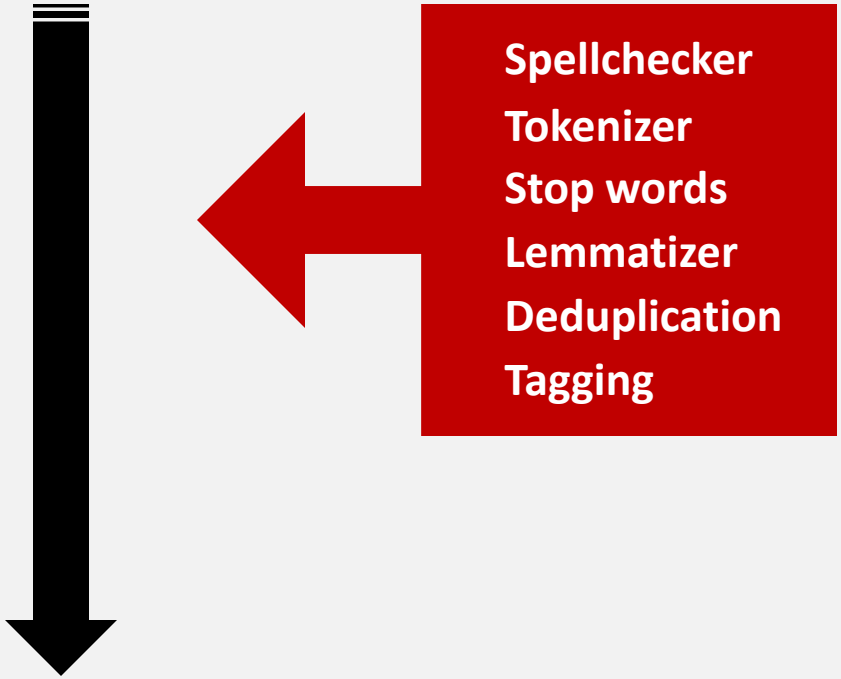
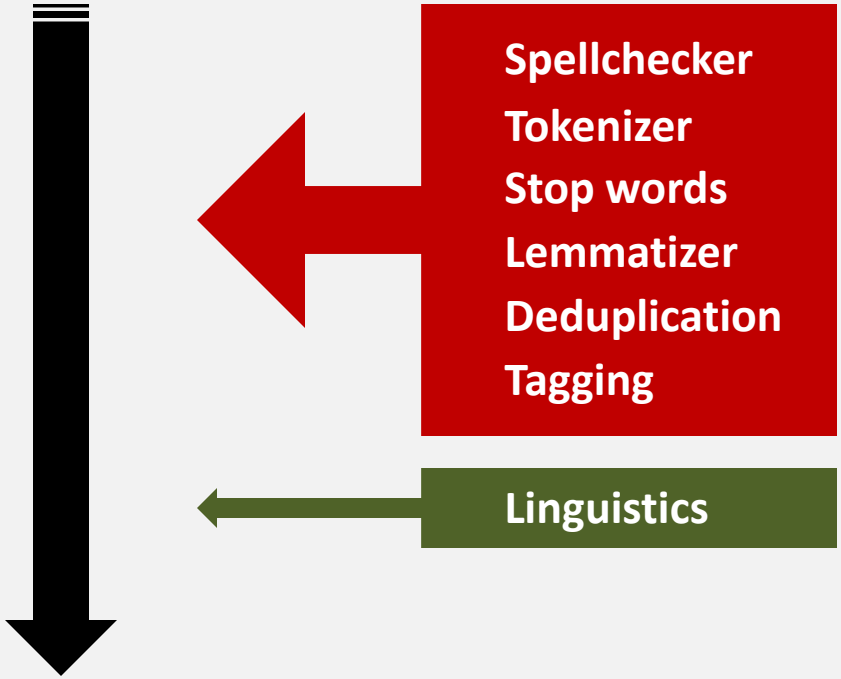


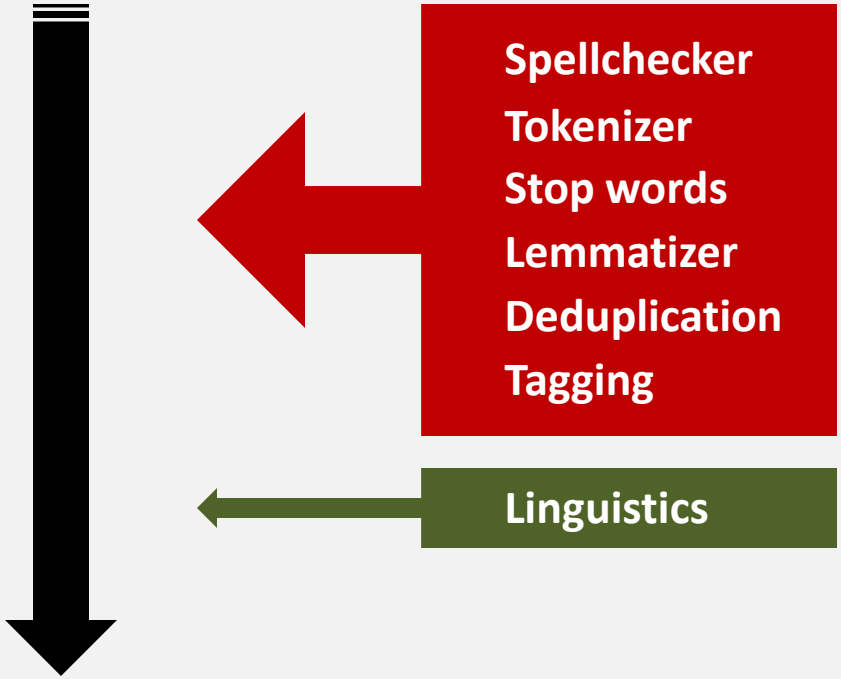
THE PIPELINE

["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]



THE PIPELINE

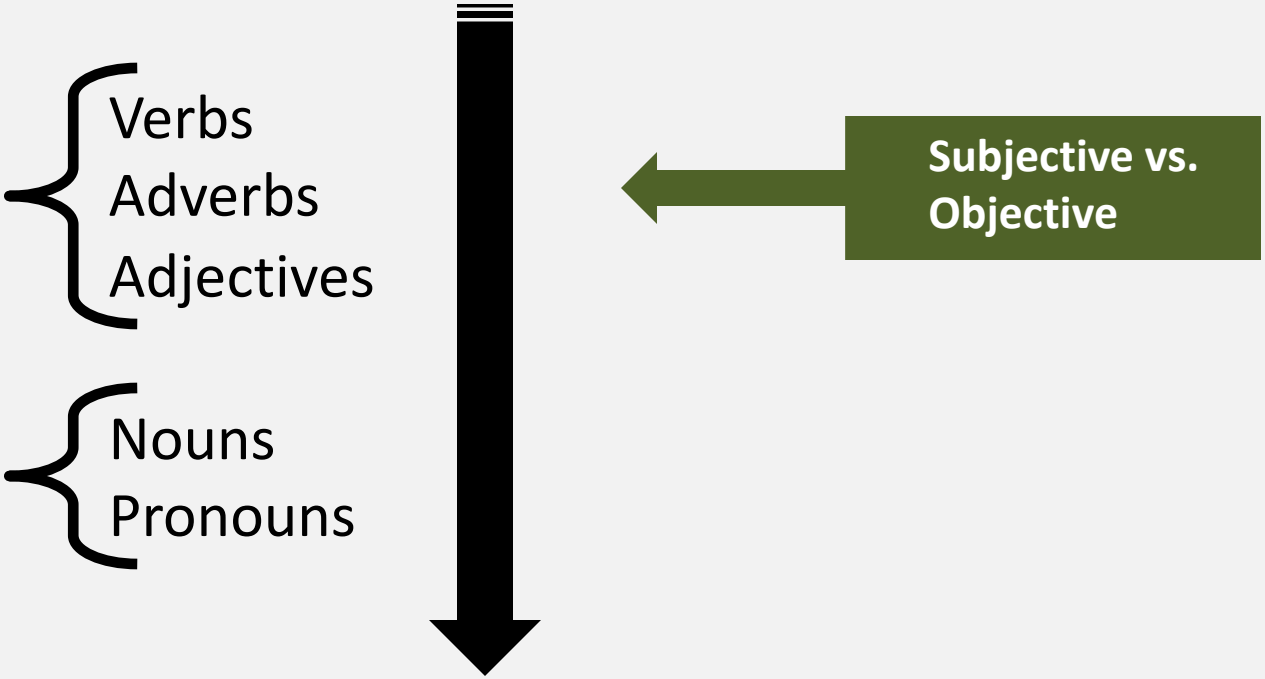
["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]



['alone' 'enjoy' 'good']

THE PIPELINE

["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]



['alone' 'enjoy' 'good']

Rolando P. Hong Enriquez

THE PIPELINE

["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]

- Verbs
- Adverbs
- Adjectives

- Nouns
- Pronouns

Subjective vs. Objective

['alone' 'enjoy' 'good']

Rolando P. Hong Enriquez

THE PIPELINE

["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]

Subjective vs. Objective

VADER

['alone' 'enjoy' 'good']

VADER: A Parsimonious Rule-based Model for Sentiment Analysis of Social Media Text

C.J. Hutto Eric Gilbert
Georgia Institute of Technology, Atlanta, GA 30032
cjhutto@gatech.edu gilbert@cc.gatech.edu

Rolando P. Hong Enriquez

THE PIPELINE

["Wheeeen I am alone, a NormallY enjoy a good pizza!! ☺"]

VADER score ≠ 0

Subjective vs. Objective

VADER

['alone' 'enjoy' 'good']

VADER: A Parsimonious Rule-based Model for Sentiment Analysis of Social Media Text

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Rolando P. Hong Enriquez

Binarize

1 2 3 4 5

[‘play’ ‘funny’ ‘sad’ ‘good’ ‘bad’] **Minimal Dictionary**

Rolando P. Hong Enriquez

Binarize

1 2 3 4 5

[‘play’ ‘funny’ ‘sad’ ‘good’ ‘bad’] **Minimal Dictionary**

‘This food is very good’ **Review**

Rolando P. Hong Enriquez

Binarize

1 2 3 4 5

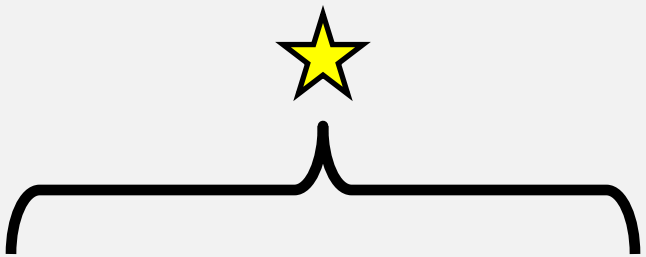
[‘play’ ‘funny’ ‘sad’ ‘good’ ‘bad’] **Minimal Dictionary**

‘This food is very good’ **Review**

[0 0 0 1 0] **Binarized Review**

Rolando P. Hong Enriquez

Training data



[1 1 0 1 0] **Review 1**

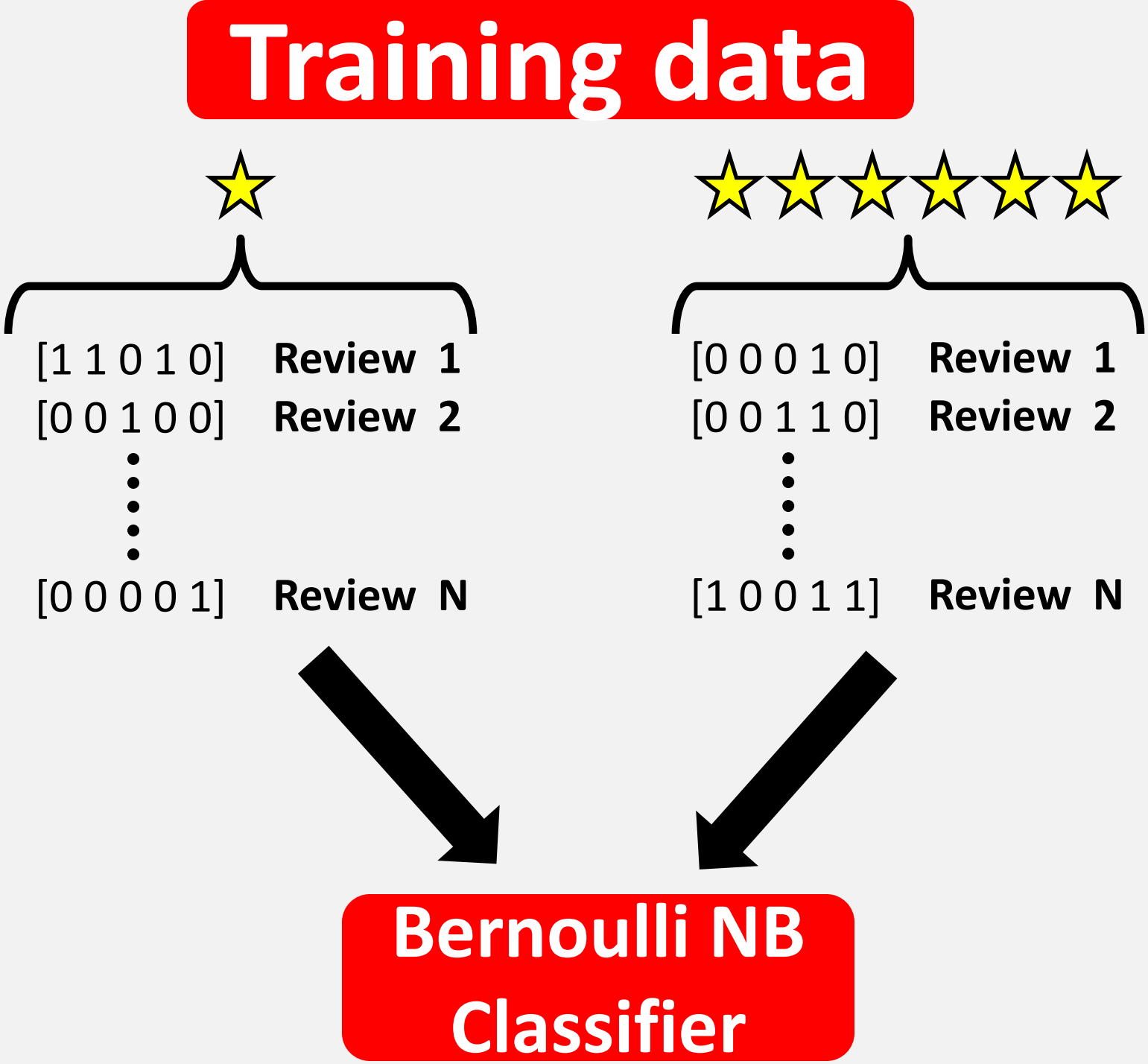
[0 0 1 0 0] **Review 2**

[0 0 0 0 1] **Review N**

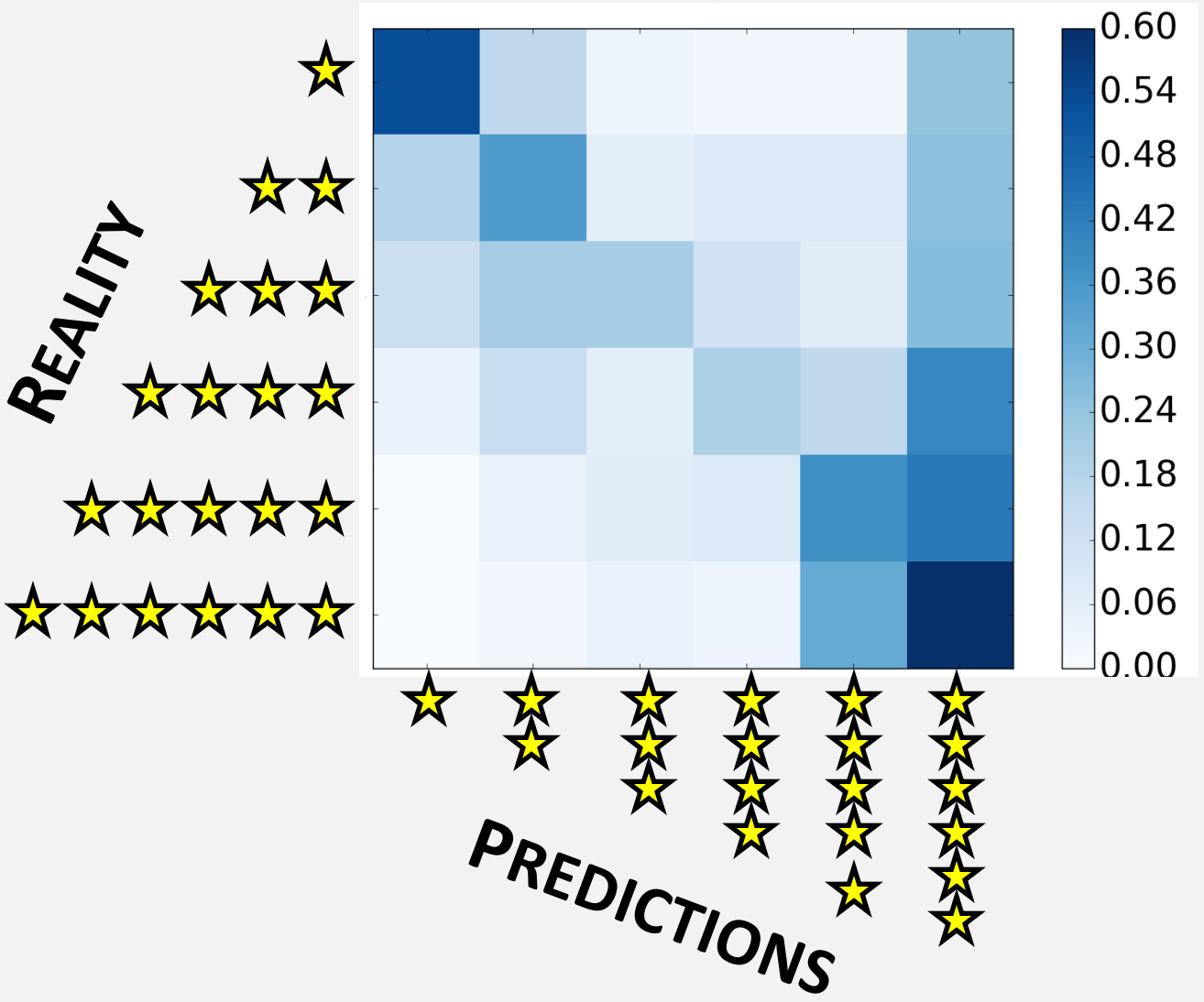
[0 0 0 1 0] **Review 1**

[0 0 1 1 0] **Review 2**

[1 0 0 1 1] **Review N**

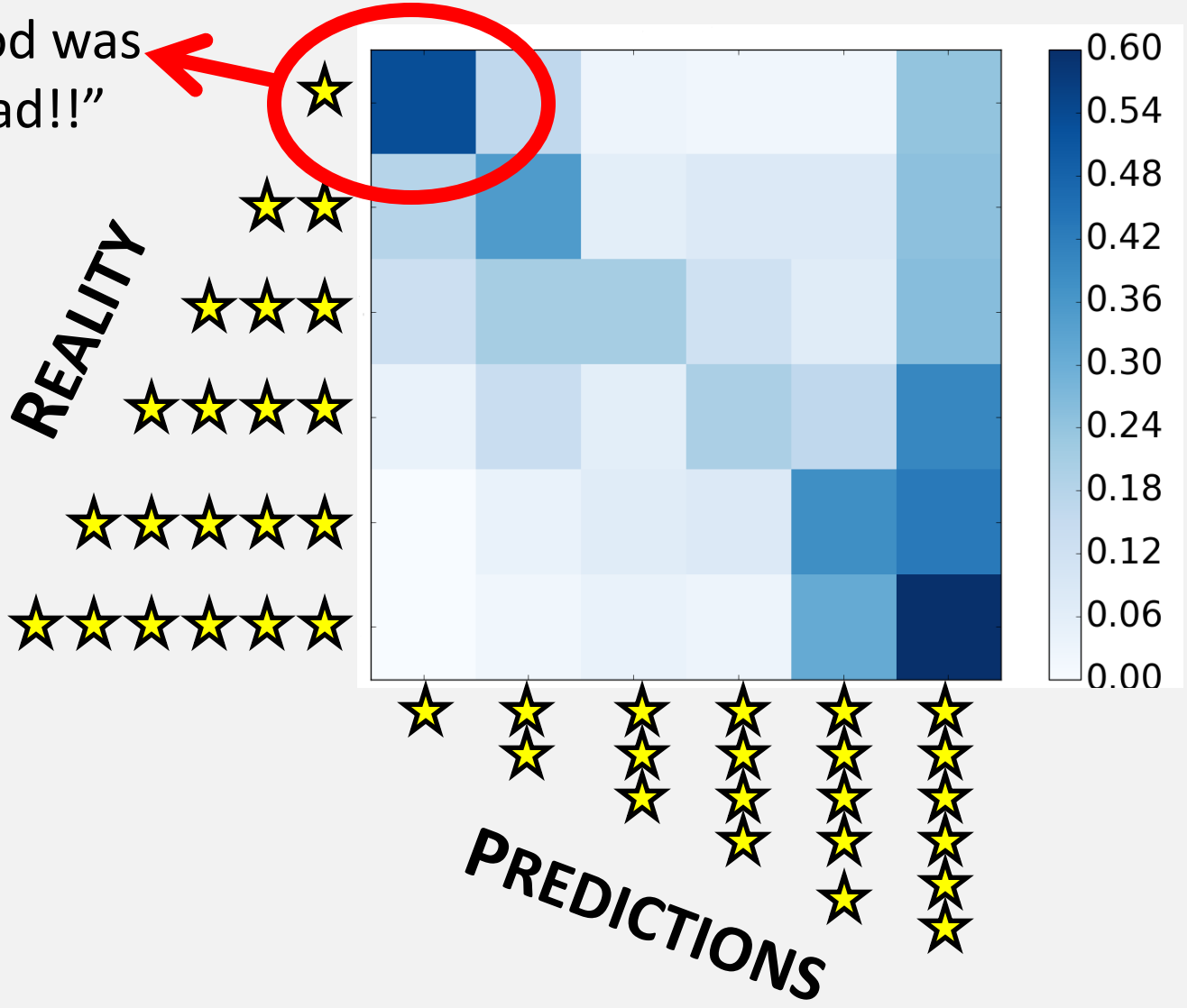

Training data
[1 1 0 1 0] Review 1
[0 0 1 0 0] Review 2
[0 0 0 0 1] Review N
[0 0 0 1 0] Review 1
[0 0 1 1 0] Review 2
[1 0 0 1 1] Review N
Bernoulli NB Classifier

Testing the Classifier

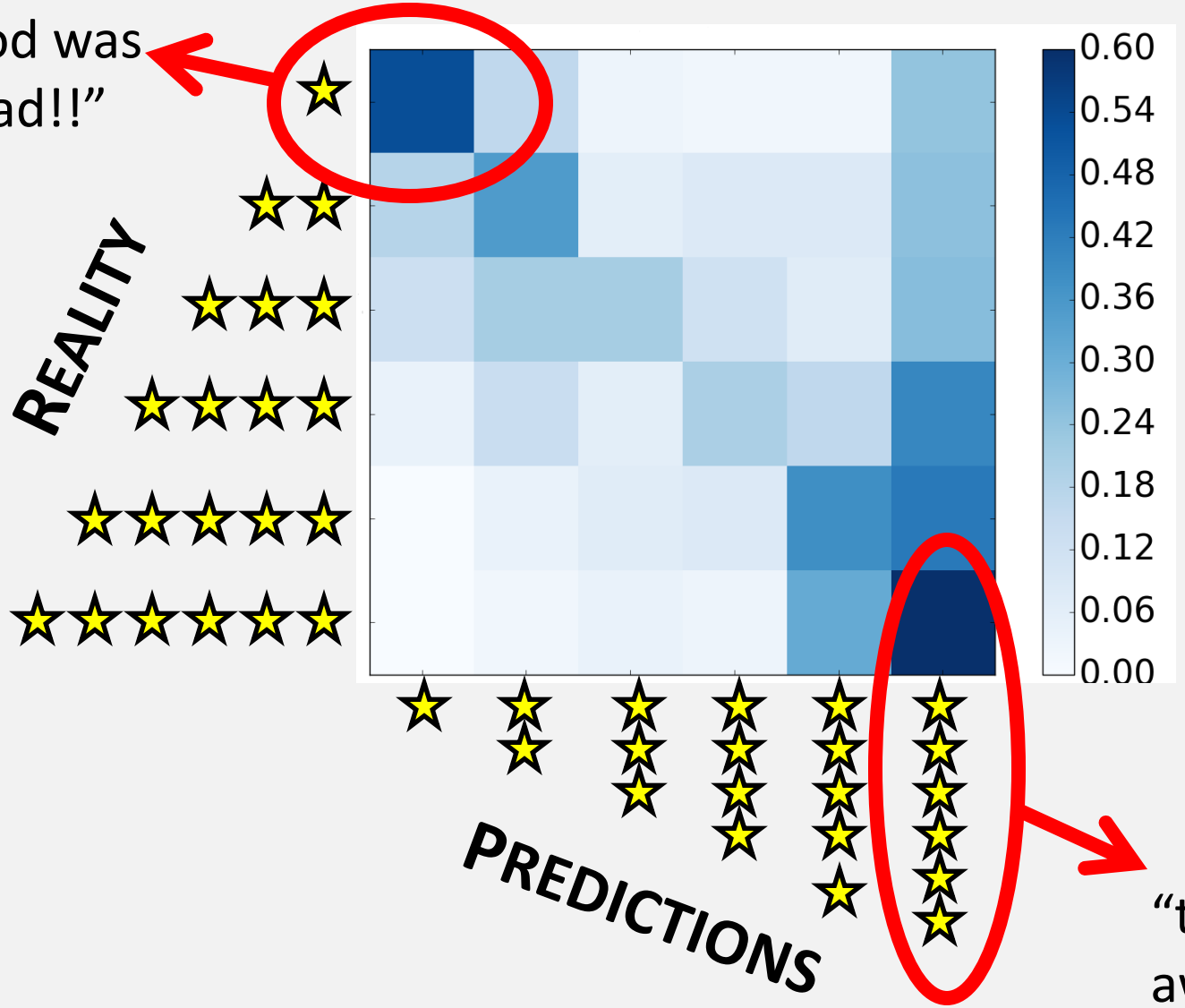


Testing the Classifier

“the food was really bad!!”

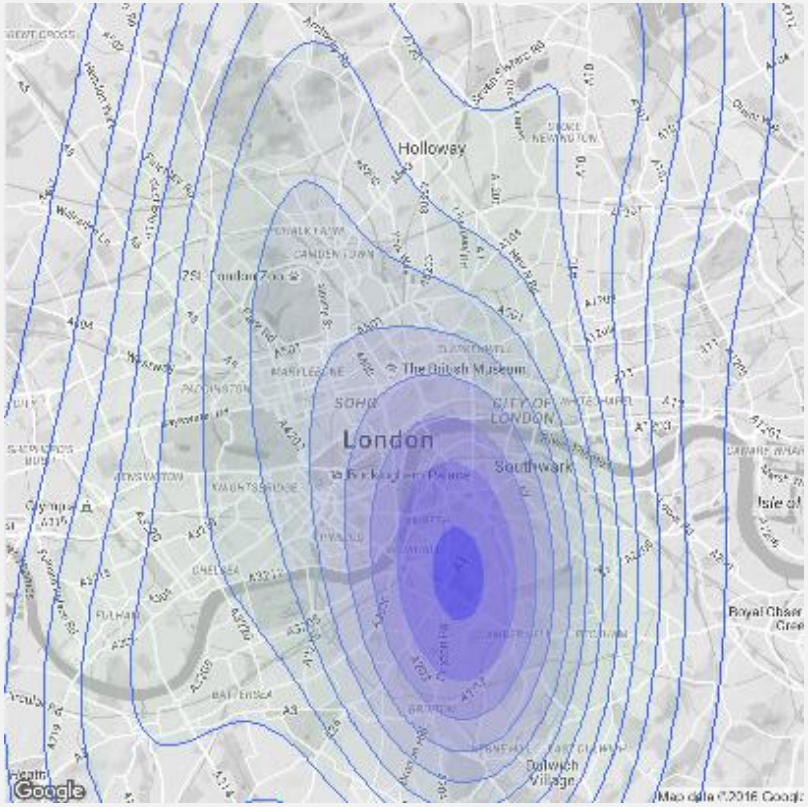


Testing the Classifier

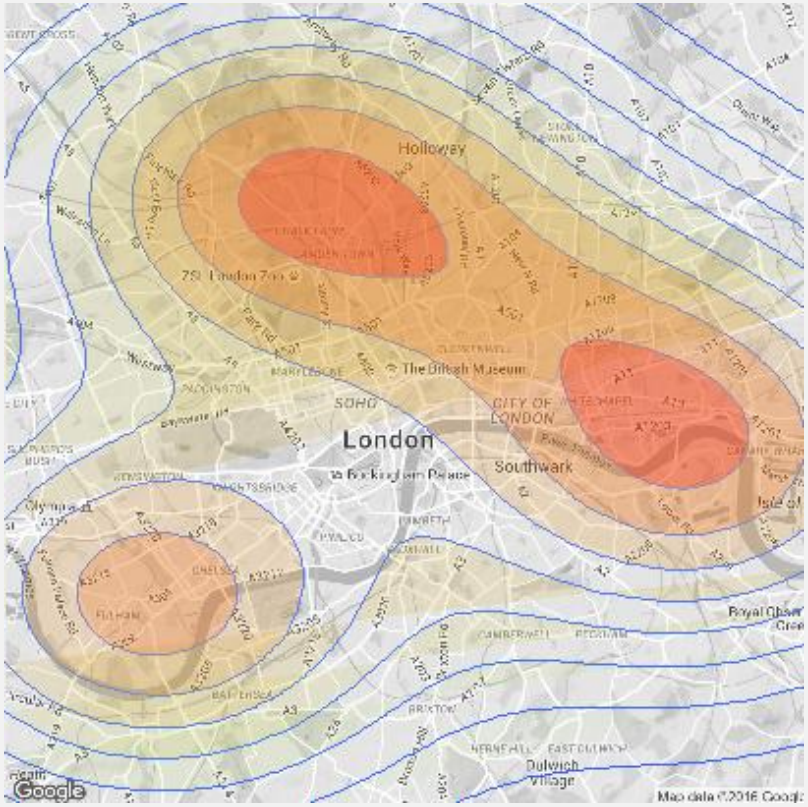


Who is getting good/bad reviews?

‘Good’ restaurants



‘Bad’ restaurants



Thank you

Rolando P. Hong Enriquez