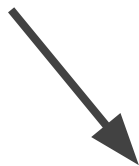


# Makeup Review Engine

Yichen Hsueh  
Chihung Hsieh

# Motivation

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amazon



SEPHORA



twitter

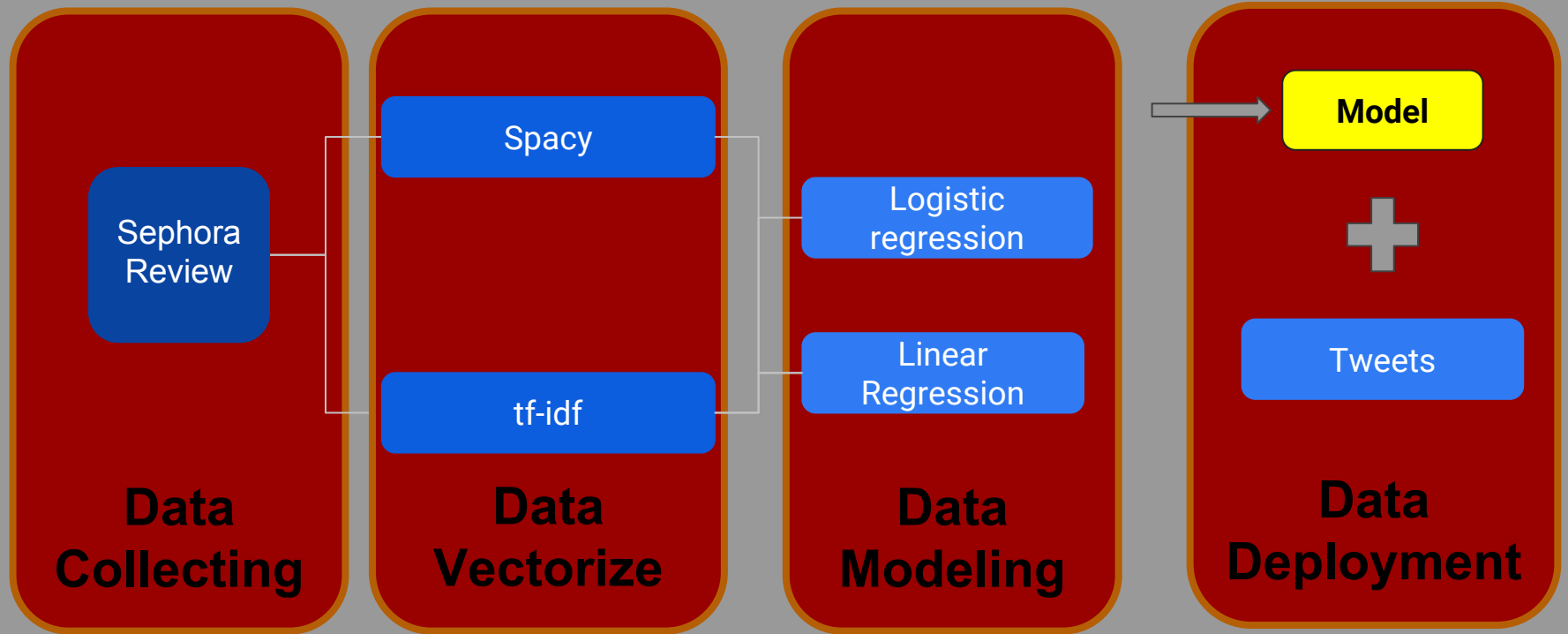


# Goal

“To help customers  
finding their  
preferred product by  
analyzing customer  
reviews”

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# Flow Chart



# Experiment

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# Data Collecting

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- Collected data from Sephora Eyeshadow 63 products, 20842 reviews, stored in MongoDB
- Based on 63 products, collected relevant 10726 tweets



← **Label**

1 Apr 2017

**gorgeous balm**

Great tint, texture, and smell. These are like an oil consistency, and have a great staying power. Very lightweight and comfortable to wear. Love!!!

**ReviewText**

# Data Vectorize & Modeling

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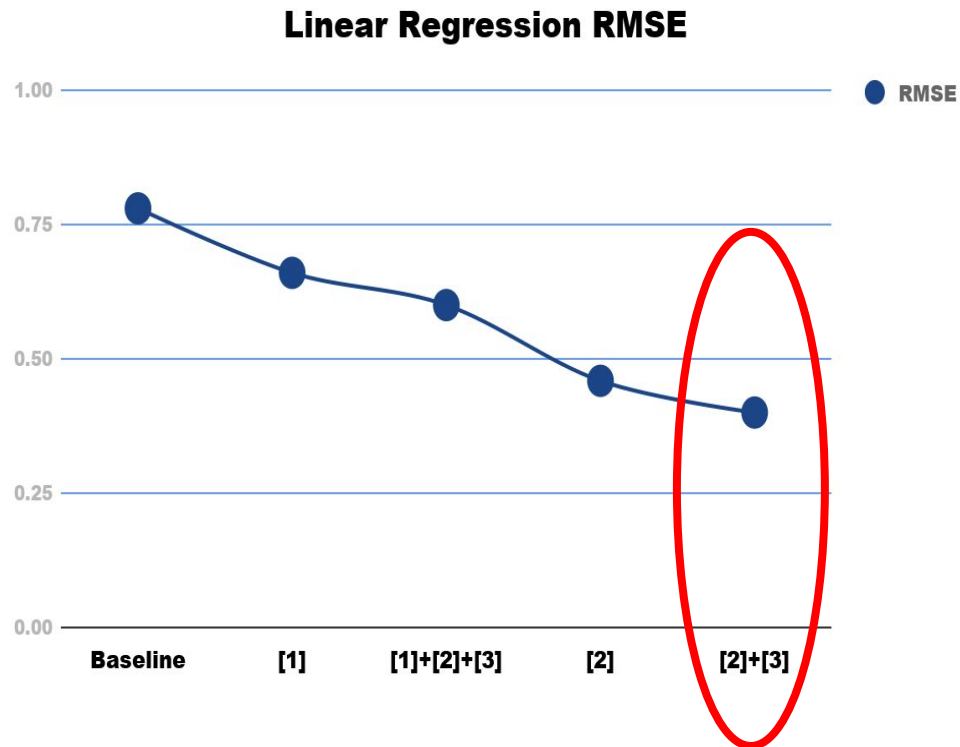
## Baseline

- Uni-gram
- tf-idf

[1]:df 5%

[2]:n-gram[1-3]

[3]:Rounded rating



# Logistic Regression

## Top 10 Positive Keyword

[('tattoo', 26.445089039232112),  
(**'621'**, 24.194678518198852),  
(**'duh'**, 20.10567389965062),  
(**'11:30'**, 19.551347594720983),  
(**'artistri'**, 19.407293287771047),  
(**'wetter'**, 19.133090009554795),  
(**'glitterglu'**, 17.127044465754928),  
(**'outlin'**, 16.80750950308386),  
(**'cheat'**, 16.6650174781242),  
(**'fall-off'**, 16.19202874336911)]

Tune Minimum  
Document Frequency



[('amaz', 1.0312141047656285),  
(**'perfect'**, 1.0265879239509372),  
(**'love'**, 0.9534794080632091),  
(**'best'**, 0.9139673049195646),  
(**'**', 0.8615668876606427),  
(**'favorit'**, 0.7810621053710018),  
(**'easi'**, 0.7253480806394224),  
(**'highli'**, 0.711523723387444),  
(**'great'**, 0.7009579690809649),  
(**'day'**, 0.6552839280874101)]



# Deployment

- Flask
- Trend

— — —

# Tweets Test Review

— — —

RMSE for Twitter data:0.41

	Twitter Predicted Rating	Sephora True Rating	Pred_Rank	Rating_Rank
p_id				
P427600	5.004184	4.769231	1	1
P411834	4.294838	4.733333	48	2
P309813	4.273064	4.689655	49	3
P410549	4.542478	4.671233	25	4
P397923	4.408159	4.656357	40	5

# Flask Web Application

## Real-time Review from Twitter

Find most interesting eyeshadow review on Twitter

Enter Eyeshadow product name:

Eyeshadow Product name:

Submit

## Real-time Review from Twitter

Find most interesting eyeshadow review on Twitter

Sephora review:

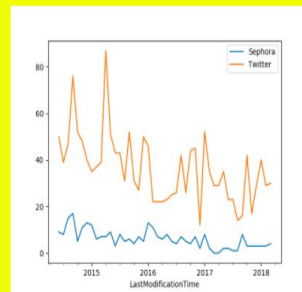
NARS Duo Eyeshadow Rating:4.4783

2283 reviews

Twitter review:

1689 reviews

## Review Trend:



Twitter Score:

4.6027235050325634

# Future Work

- Better Model
- Auto summary

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# Better Model

— — —

- Non-linear regression
- Linear SVM
- LSTM