





Random Acts of Pizza



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Background




2 comments share report



4 2  **[Thanks] Thanks Brasm0nky for the pizza!**
submitted 2 hours ago by MrHotWheels  Recipient (Got 1)
2 comments share report




5  **Bad time**
submitted 12 minutes ago by sthreat86  Small Fish (0)
1 comment share report

6 2  **[REQUEST]Poor college student surviving off of cheetos and chipotle ramen noodles.**
submitted 5 hours ago * by noblepups  Small Fish (30)
2 comments share report

7 4  **[Thanks]/u/ajpiko for pizza!**
submitted 11 hours ago by BulkyBear  Recipient (Got 1)
7 comments share report

8 17  **[Request]-Got notification of employment yesterday, want to celebrate after six long months of being unemployed** 
submitted 1 day ago by EclipseIndustries  Recipient (Got 1)
8 comments share report

9 1  **[Request]- Not gonna lie: Hungover, broke, and would be over the moon happy for some pizza.**
No Longer Needed
submitted 8 hours ago by kroka4loka  Fish (120)
1 comment share report

10 13  **[request]-Life took a turn for the bad. Could use something good (preferably something good covered in cheese)** 
submitted 1 day ago by JIsrael180  Recipient (Got 1) Fish: 115
11 comments share report

Random_Acts_Of_Pizza

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49 users here now

SCAM WARNING

Scammers will send **PRIVATE MESSAGES!**

- **Red Alert if the conversation turns to "gift card"** or you receive an amazon/wishlist or other "easy out"/pushy behavior to complete the transaction
- **Check account names/age/karma carefully**, use [messages view](#). Install [Reddit Enhancement Suite](#) to check karma/age quickly.
- See [How Scammers Operate](#).

Best Practices

- **Donate through the subreddit**, do not gift/trade with anyone that PM's you!
- Order gift cards to **your own e-mail**
- **No screenshots!** Send gift code + PIN as text. Do not give away order confirmation numbers
- Do not buy from wishlist or product links

Welcome to RAoP

The Original Random Pizza Delivery Service

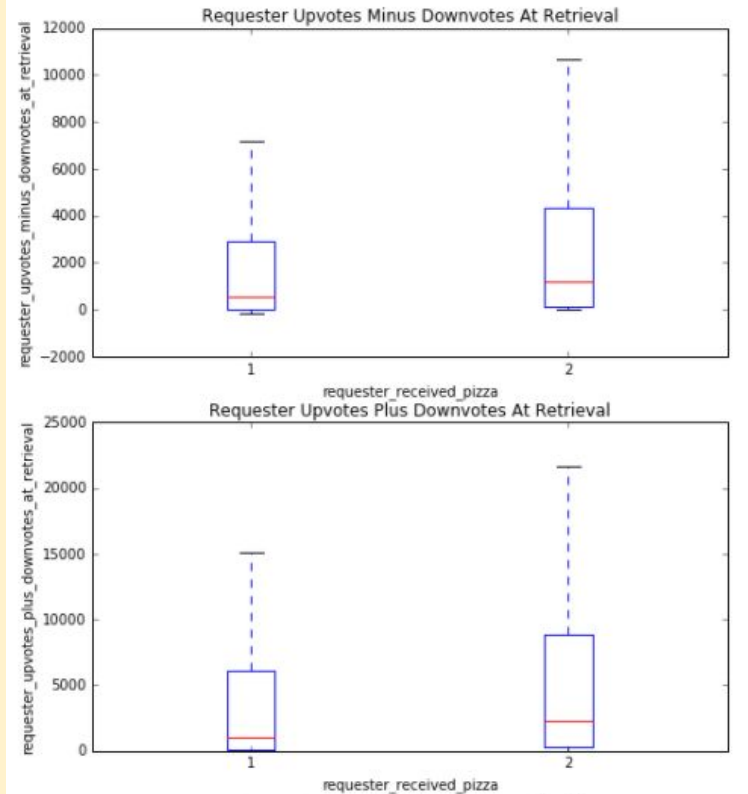
We are open for *active Redditors* that have not engaged in questionable online behavior (relax, we don't know about *all* of it, you're probably fine). See [The Pizza Library](#) for everything you need to know to get started.

Sorry, we are not a public food assistance program, please see [Emergency Food Assistance](#) for other tips.

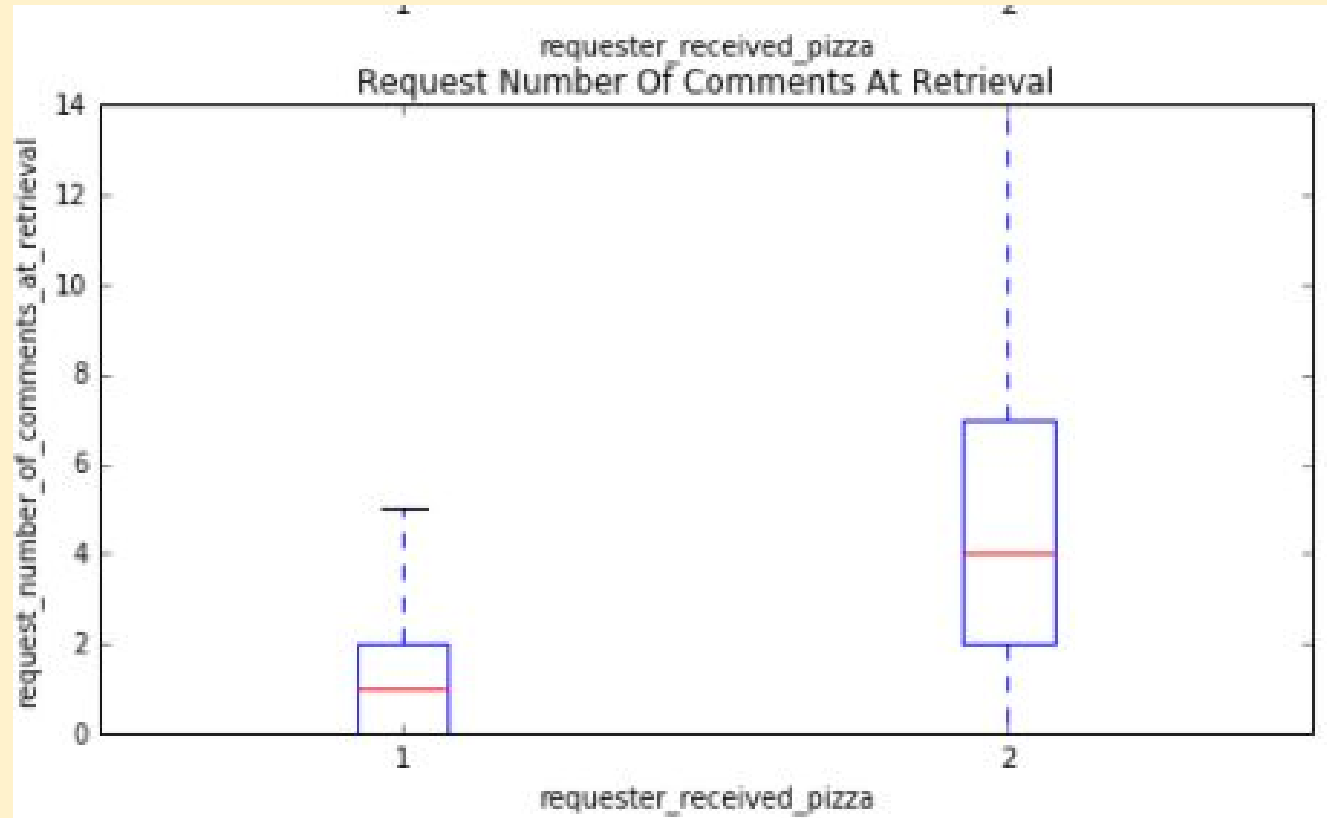
Dataset

- 5671 requests
- Contains information about:
 - The post itself (upvotes, downvotes, timing, title)
 - The requestor

Exploratory Analysis



Exploratory Analysis



Feature Engineering

Examples:

request_title	request_text_edit_aware	requester_#_of_posts (at request)
0 [Request] Colorado Springs Help Us Please	Hi I am in need of food for my 4 children we a...	0
1 [Request] California, No cash and I could use ...	I spent the last money I had on gas today. Im ...	15
2 [Request] Hungry couple in Dundee, Scotland wo...	My girlfriend decided it would be a good idea ...	0
3 [Request] In Canada (Ontario), just got home f...	It's cold, I'n hungry, and to be completely ho...	1
4 [Request] Old friend coming to visit. Would LO...	hey guys:\n I love this sub. I think it's grea...	14

Feature Engineering

6 methods that were progressively more accurate:

- Request text only
- Request text and title
- Request text and title, with the title weighted (simply repeated 10 times)
- Preprocessed data, turning all numbers into 'NUM' and removing non-alphanumeric characters
- Preprocessed 3 n-gram data
- Preprocessed data, transformed into TF-IDF vectors

Feature Engineering

We also added numerical values about the requester into our model:

```
training_features = [  
    'requester_number_of_posts_at_request',  
    'requester_upvotes_plus_downvotes_at_request',  
    'requester_upvotes_minus_downvotes_at_request',  
    'requester_account_age_in_days_at_request']
```


Machine Learning Algorithms

Baseline: K Nearest Neighbors

- Pros
 - Simple to implement
 - Easy to understand
 - Does not require training
- Cons
 - Difficult to choose the best distance metric (cosine, pythagorean)
 - Can be slow
- Accuracy = 0.75

Random Forest

- Pros
 - Easy to understand
 - Excels with nonlinear boundaries
- Cons
 - Can tend to overfit (if not pruned well)
- Accuracy = 72.77%

AdaBoost

(Adaptive Boosting)

- Pros
 - Easy implementation (“out of the box”)
 - Reduces dimensionality and focuses on difficult-to-classify samples
- Cons
 - Weak classifiers included in the model can bring down accuracy without pruning
- Accuracy = 76 %

Logistic Regression

- Pros
 - Simple to implement
 - Flexible, works with probabilities
- Cons
 - Not super intuitive
- Accuracy = 51.92 %

Naive Bayes

- Pros
 - Works with probabilities (great for our problem!)
 - Very fast computation (algorithm is computer-friendly)
- Cons
 - Assumes that all features are independent of each other
- Accuracy = 76.1 %

RNN LSTM Neural Network

- Pros
 - Unsupervised (automatic feature engineering)
 - Powerful
- Cons
 - “Black Box”
 - Can overfit
- Accuracy: 76.11 %

Combined

We combined:

- K-Nearest Neighbors (on text and title)
- K-Nearest Neighbors (on preprocessed text and title)
- Random Forest
- Adaboost
- Logistic Regression

Accuracy = 76.36 %

Thank you!