



I Hate this Product!

Five Stars! ★ ★ ★ ★ ★

REDUCING RATING INFLATION USING NLP

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AGENDA

- 01 The Problem(s) with 5-Star Ratings
- 02 Getting to Know Our Data
- 03 Modeling Process
- 04 Final Model Performance
- 05 Where Do We Go from Here?

THE PROBLEM(S) WITH 5-STAR RATINGS



Prone to Grade inflation



No Incentive for Reviewers to Be Truthful



Product Quality/Reception is Obscured

WHO WANTS A BETTER SYSTEM?



Consumers



Online Marketplaces



Sellers

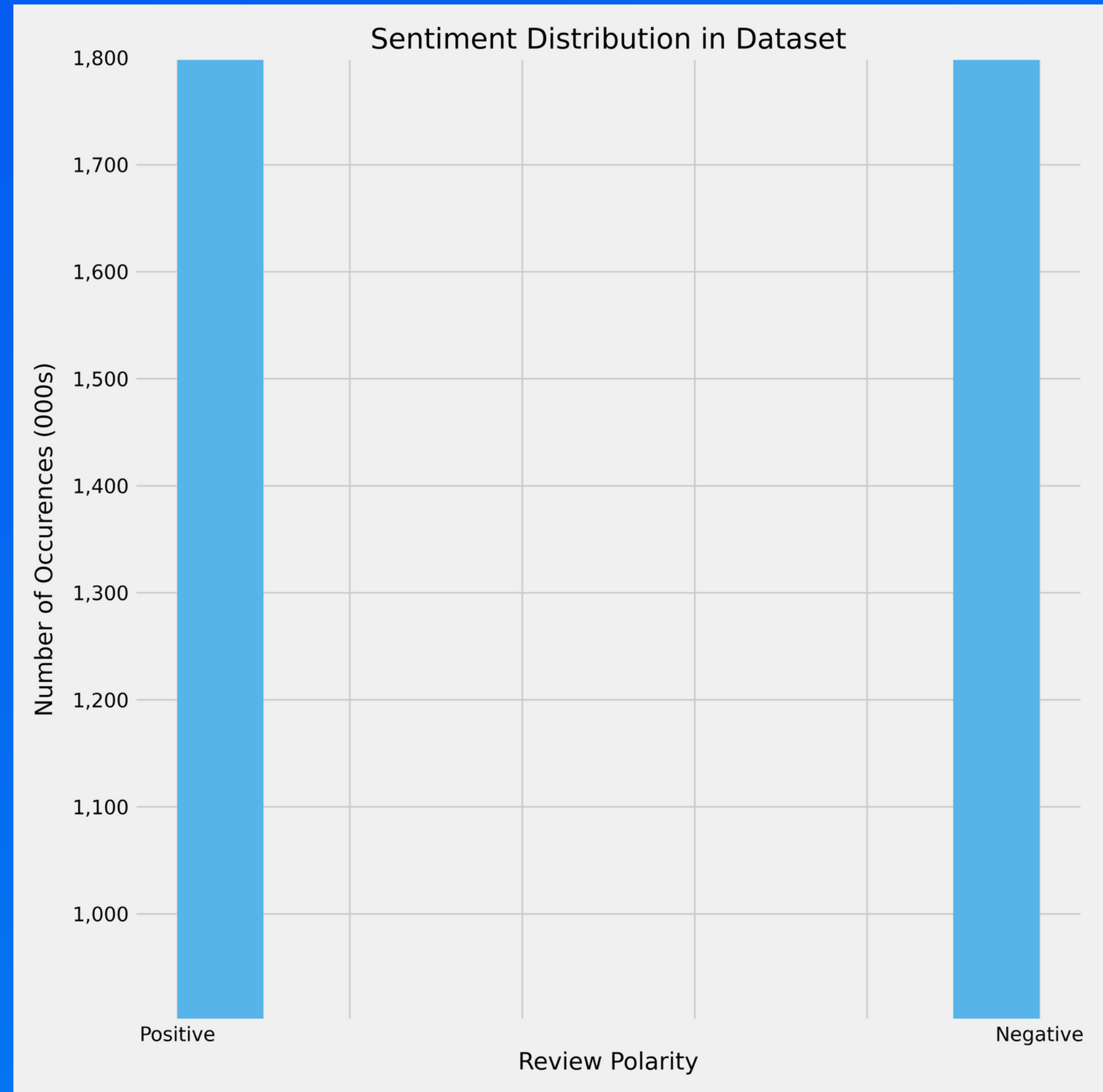
GETTING TO KNOW OUR DATA

Model Trained On:

- 3.6 Million Amazon Reviews
- Wide Variety of Products

Validation Data Includes:

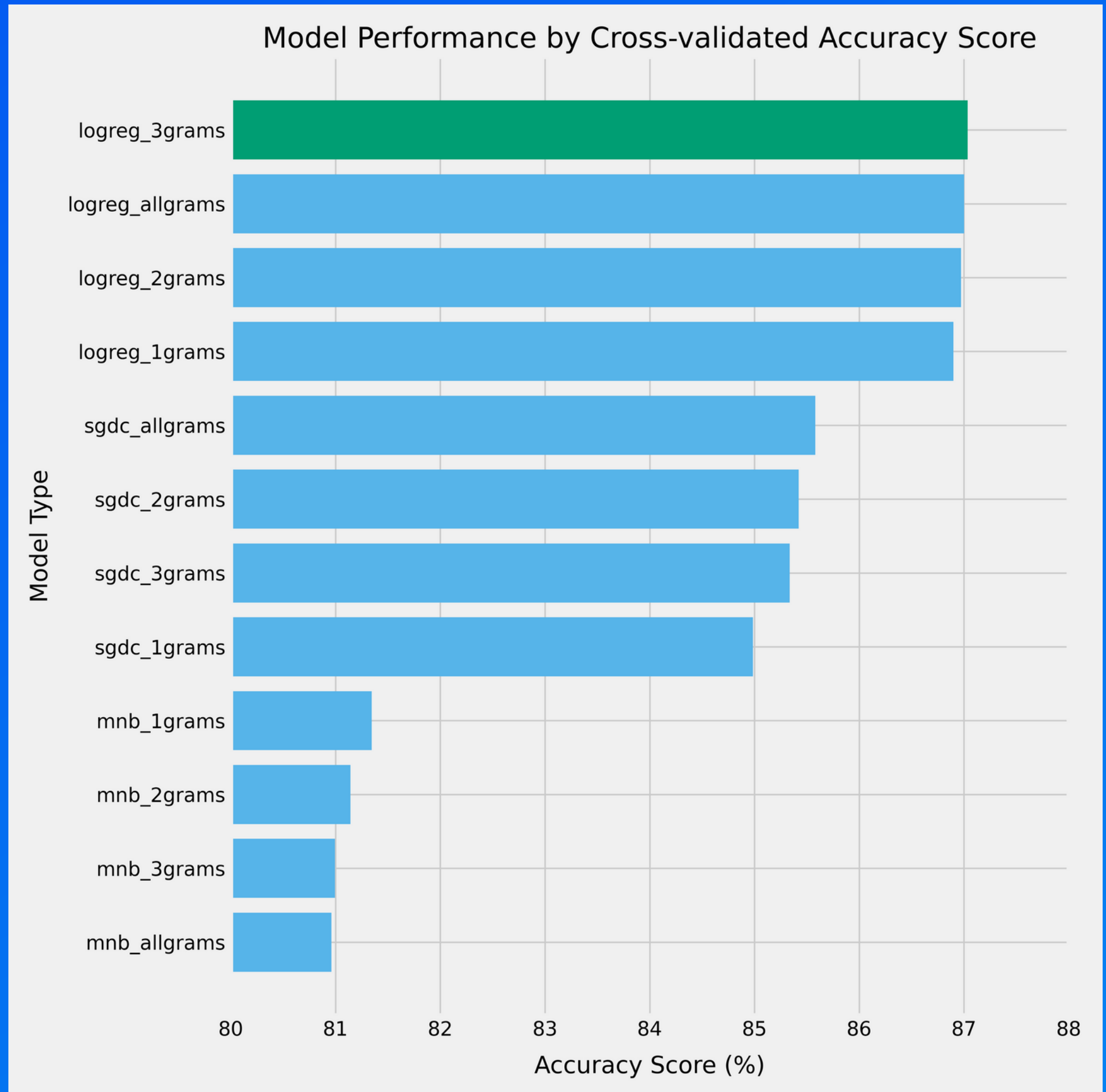
- 400,000 Amazon Reviews
- 100 Reddit Posts (r/ProductReviews)
- 19,000 Reviews of Women's Fashion Items



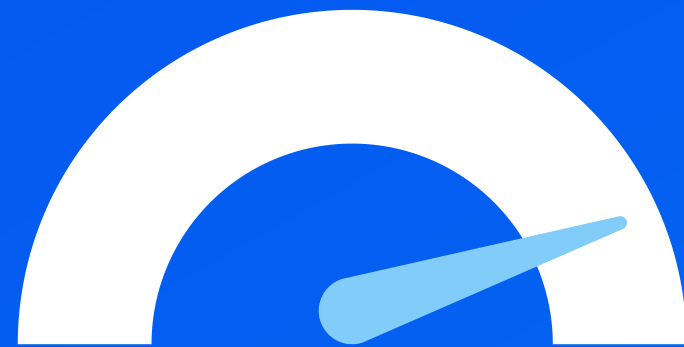
MODELING PROCESS

Prioritized Model Accuracy

- Multinomial Naive Bayes
- Logistic Regression
- Logistic Regression with SVM



FINAL MODEL PERFORMANCE



87%
AMAZON



84%
FASHION DATA



75%*
REDDIT REVIEWS

REDDIT – CORRECT PREDICTIONS

NEGATIVE:

The projector specs are a lie. ... I actually laughed when I first saw the image projected on the wall. When I asked for a refund and return, they said my item nonrefundable since it was on sale. So now I'm stuck with this junk

POSITIVE:

... The cone attachment, as an example, can help once you would like to pinpoint muscles within the balls or heels of your feet. ... There are endless benefits that you simply are going to be getting from a muscle gun...The convenience you get from these units is that you simply can enjoy a massage anytime and from anywhere since they're portable.

REDDIT - INCORRECT CLASSIFICATION

NEGATIVE:

Degree MotionSense Antiperspirant Deodorant Dry Spray comes in a spray-on application for both men and women. It offers 72-hour protection and instantly dries which makes it ideal for not staining black and white clothing. Check out the video for my full thoughts.

POSITIVE:

We have free item for US only! Nitrile Disposable Gloves 100pcs. If you are interested, please contact me!

WHERE DO WE GO FROM HERE?



MORE DATA

Other Review Platforms
Other Languages
Expand Target Classes



CLOUD ENVIRONMENT

More Data Bandwidth



WEB APPLICATION

Allow small sellers to upload
ratings and download them
classified

THANK YOU!
ANY QUESTIONS?

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