

FOODY & FOODIE

Consumer Sentiment analysis

By

The Grilled Tacos



Our menu today

Hors d'œuvre: Business understanding

Starter : Data understanding

Salad: Data processing

Main course: Modeling with a side of deployment

Dessert: Conclusions garnished with recommendations



Business Understanding

Overview

Foody&Foodie, a family-run gem in San Francisco, CA, knows the secret to staying ahead in the food business is the golden rule “the customer is always right”.

As seasoned pros, they’re aiming to keep an eye on customer sentiments and keep that competitive edge!

Problem Statement

Foody&Foodie’s management need a reliable insights to fine-tune their business and stay in sync with the ever-changing tastes of their market!



Business Understanding

Challenges

In the food world, there are a ton of tasty metrics that can make or break a restaurant's success.

To get a fair and balanced view, we need a data set that serves up a full plate of these factors, so we can evaluate them and nail down the recipe for success!

Proposed solution

We'll cook up a model to dive into customer sentiments by analyzing restaurant reviews in our target area.

Pulling data straight from Yelp, the ultimate hub for all things foodie in our market and treasure trove of reviews, we'll get the inside scoop on what customers really think!



Business Understanding

Objectives

Main Objective

- Create a model that could successfully predict the sentiment of a customer's review as accurately as possible.

Specific Objective

- Identify the most common words used in the dataset.
- Confirm the most common words that are positively and negatively tagged.
- Recognize the products that have been reviewed by the customers.
- To spot the distribution of the sentiments across the reviews.



Data Understanding

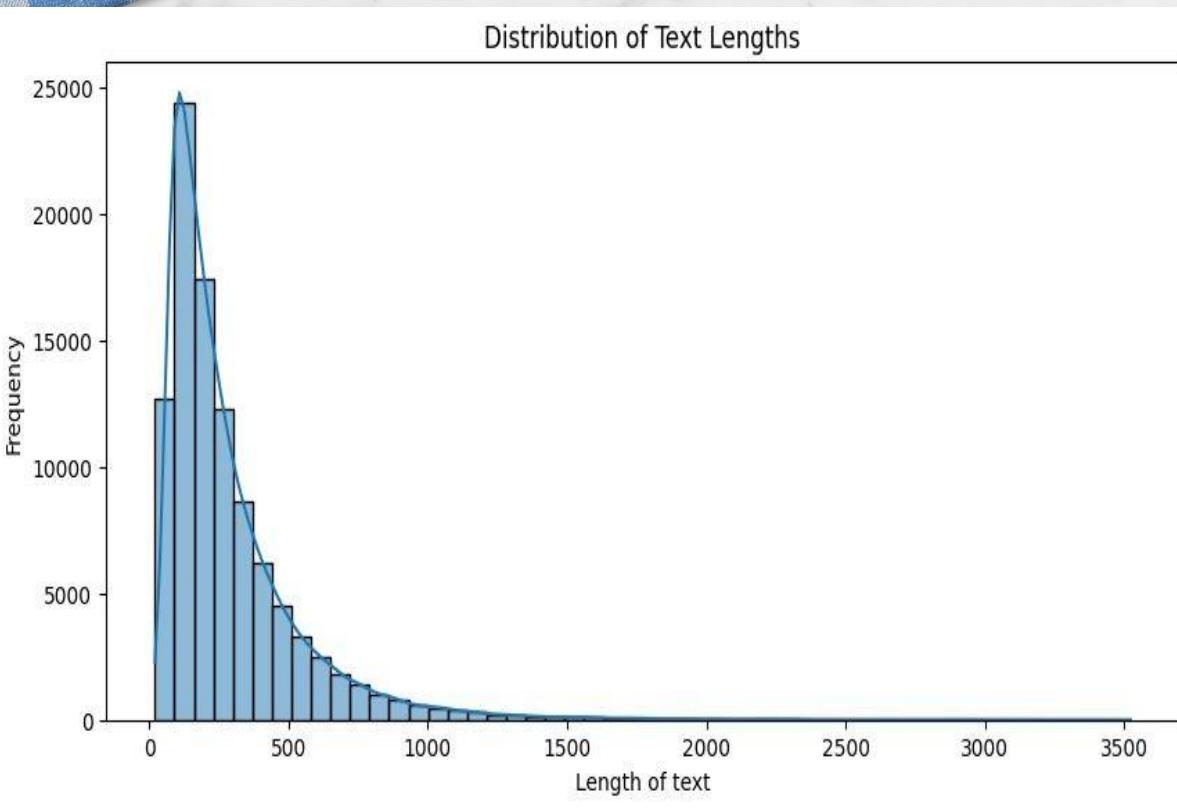
Here is a snippet of the Yelp data set, were examining 429,771 reviews, and broke this down to what we needed by:

- Removed unnecessary columns.
- Handled missing values.
- Calculated review length.
- Categorized reviews based on ratings.
- Converted text to lowercase.
- Removed punctuation, numbers, stopwords.
- Simplified words.
- Saved cleaned data for future analysis.

stars	useful	funny	cool	text	date	text_Length	review_category
5	0	0	0	ive eating restaurant year staple ab family li...	2021-01- 08 01:49:36	404	positive
1	0	0	0	delivery person get lost heard google map food...	2021-01- 02 00:19:00	315	negative



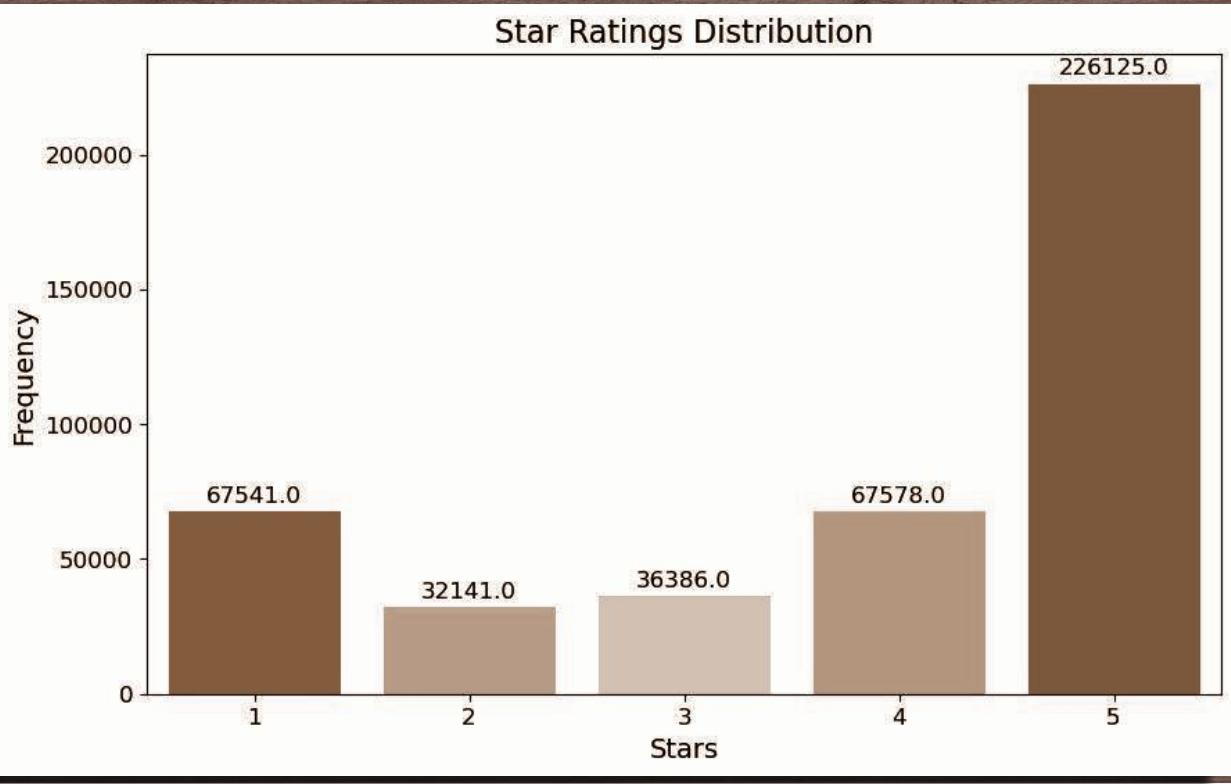
Data Analysis



Users prefer brief comments, suggesting quick impressions or experiences, offering customer satisfaction insights.



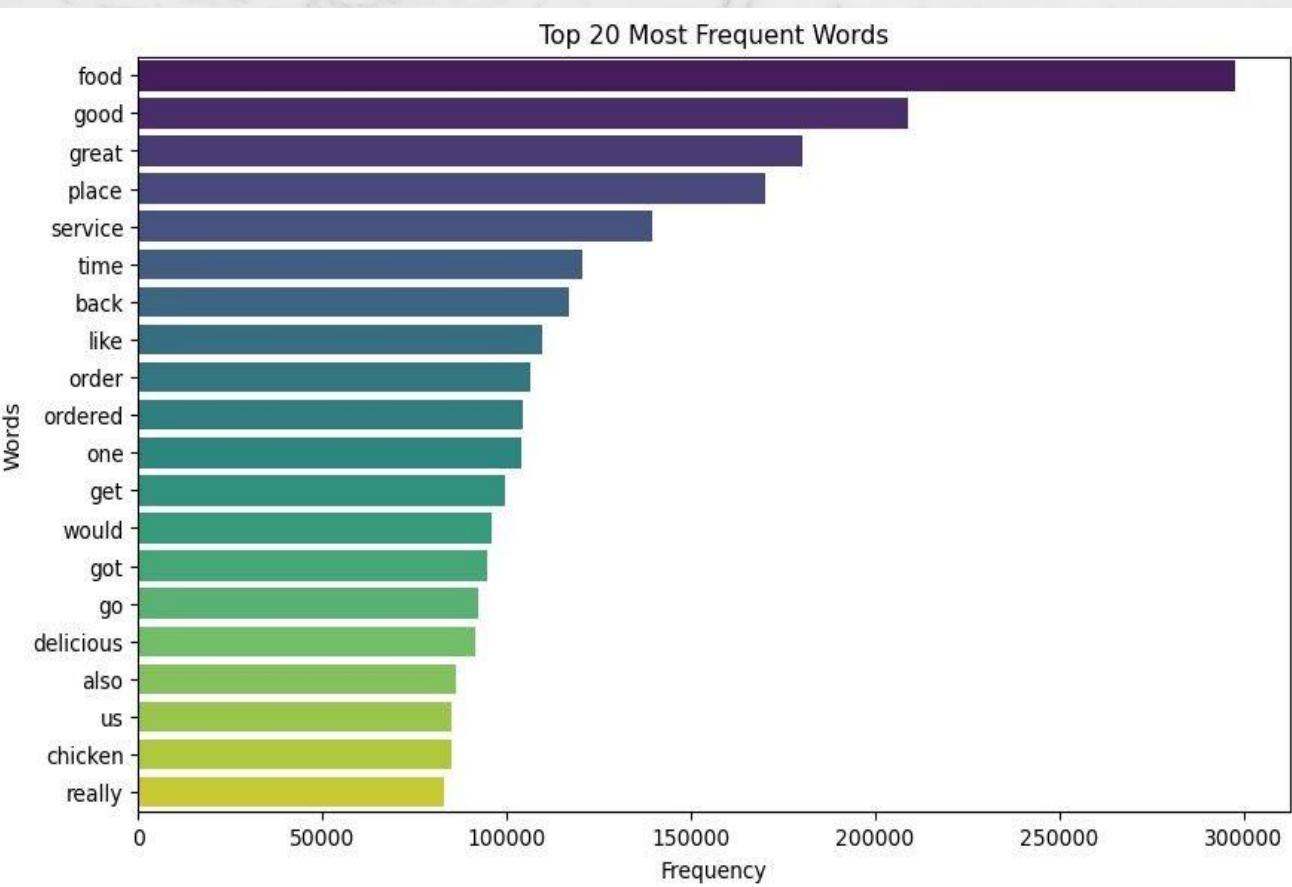
Data Understanding



high 5-star reviews indicate reviewers may be more motivated to leave a review of a positive experience.



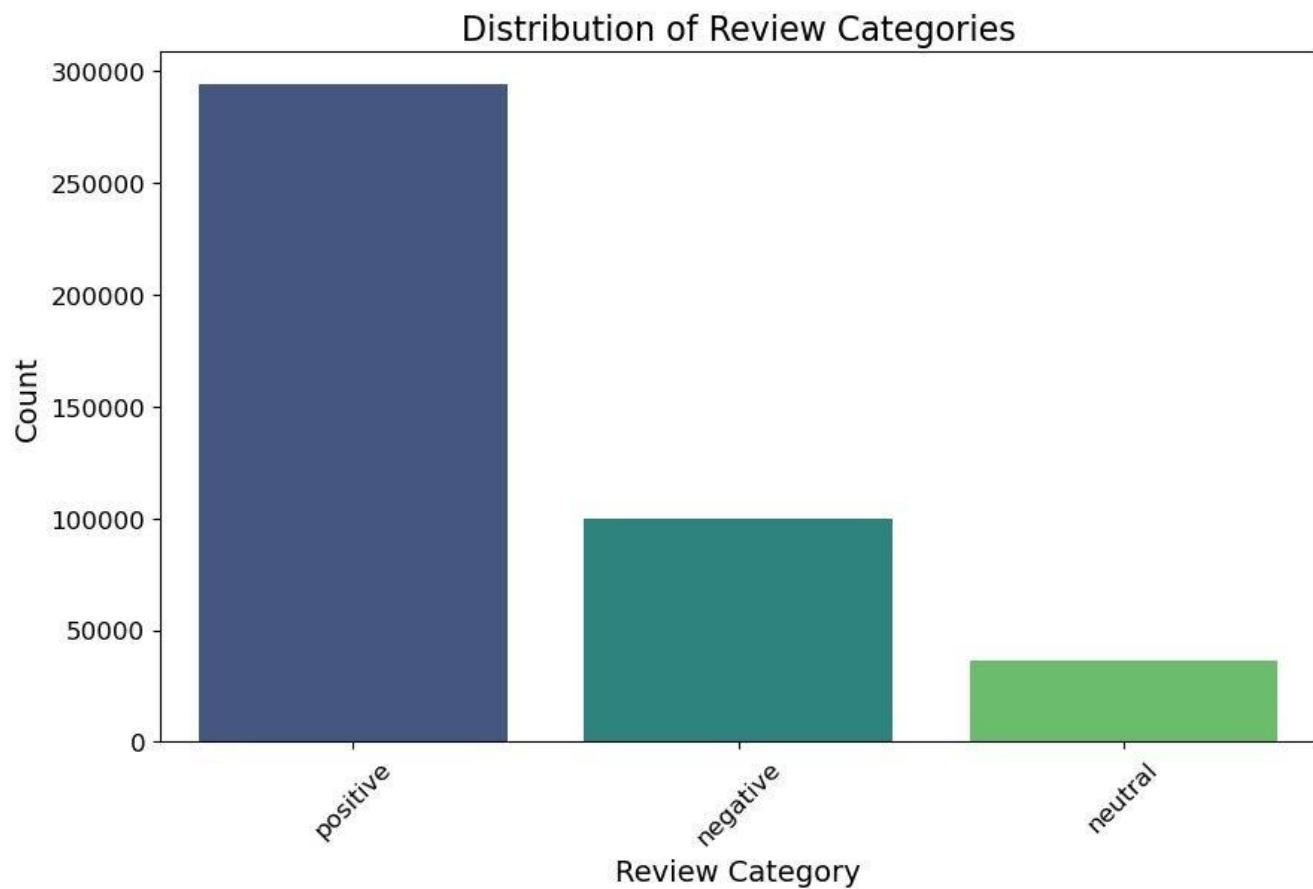
Data Analysis



The majority of reviews show positive customer satisfaction at restaurants, with key positive keywords emphasizing food quality and excellent customer service.



Data Analysis



Data Analysis

SO, What does this all mean?

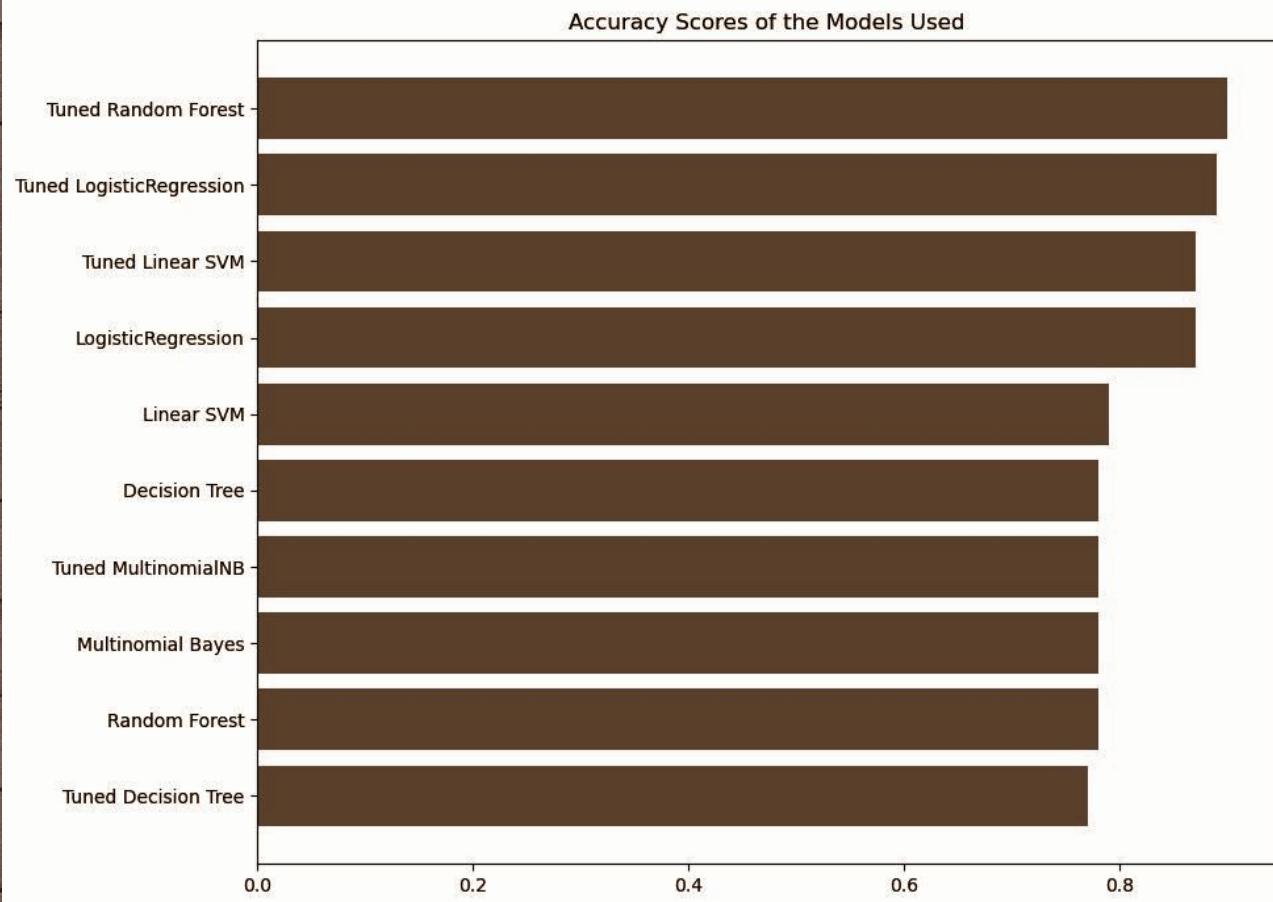
Negative Reviews:Customer service takes the spotlight in negative reviews, popping up as the most common area for improvement.

Neutral Reviews:Food quality is the star of the show in neutral reviews. It's not bad, but it seems like we're not wowing anyone in other areas like service or atmosphere.

Positive Reviews:Customers are loving the service and food in positive reviews, often giving us a shout-out and recommending us to others. This just goes to show that we're nailing the dining experience and leaving people hungry for more!



Data Modeling & Evaluation



A snippet showing the performance of all the models we tested

Data Modeling & Evaluation

- Logistic Regression and Random Forest performed best, especially after tuning, with 90% accuracy and recall.
- Support Vector Machine (SVM) showed significant accuracy improvement post-tuning, but recall dropped, indicating less balance.
- Multinomial Naive Bayes and Decision Trees showed no significant improvement post-tuning, maintaining 78% accuracy and recall.



Model Deployment

The screenshot shows a web application interface for a food-related service. At the top, a red banner features two white stars and the text "FOODY & FOODIE". Below the banner, the title "Foody & Foodie" is displayed in a large, serif font. A horizontal navigation bar includes links for "Home", "Order-Up", and a red "Review Us" button. The main content area has two sections: "Review Us" on the left and "The Back End Prediction" on the right.

Review Us

Username
Mrs Marius

Review
I did not like this place.

Post Review

The Back End Prediction

The user @mrs_marius said 'I did not like this place.'

Our model predicted the review to be a Negative Sentiment!

Conclusion

- The sentiment analysis model for Foody&Foodie has been a significant success, providing insights into customer perceptions and experiences.
- Categorizing reviews into negative, neutral, and positive categories helps identify areas for improvement and gauges overall customer satisfaction.

This data-driven approach enhances Foody&Foodie's ability to respond to customer needs and adapt to market changes proactively.



Recommendations

Address Negative Feedback: Zero in on recurring issues from negative reviews and take action with targeted fixes to boost satisfaction.

Leverage Positive Feedback: Shine a spotlight on what you're doing right, keep up the great work, and reward your team for the glowing reviews.

Monitor Trends: Stay in the loop by regularly checking feedback trends and tweaking your strategies to match the latest customer and market vibes.

Enhance Engagement: Keep customers in the know—let them see how their feedback is making a real difference!

Engage with us!: give us feedback on the app, let us know what you need improved and/or added



Any Questions?

