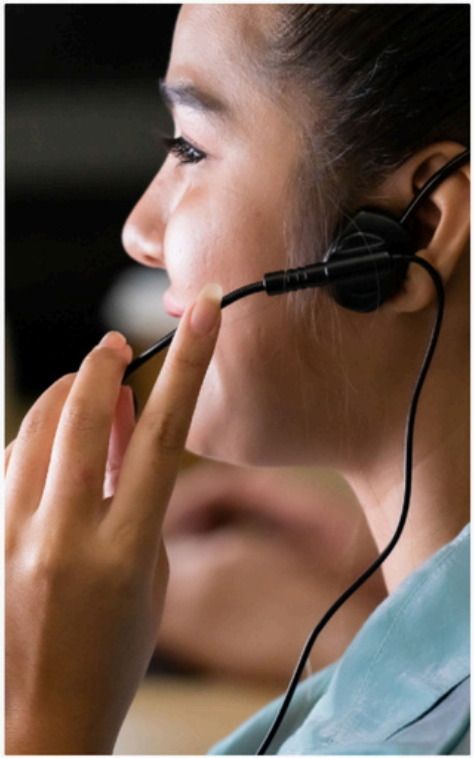
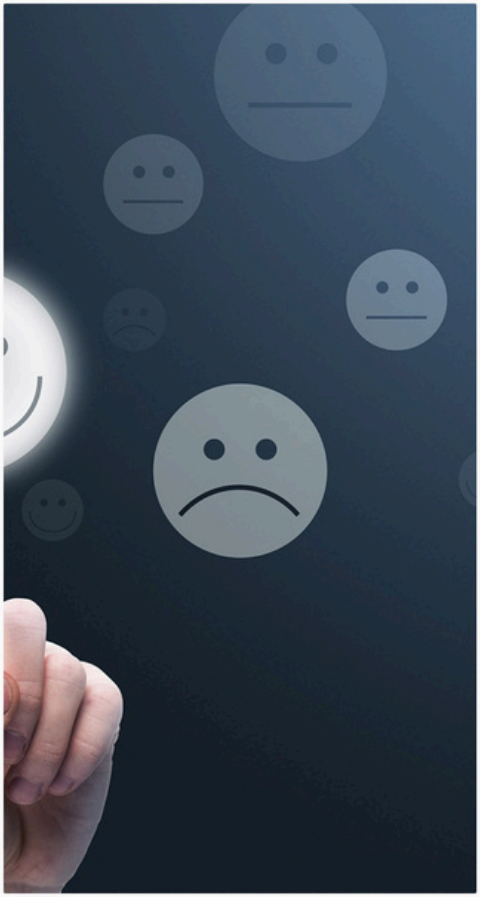
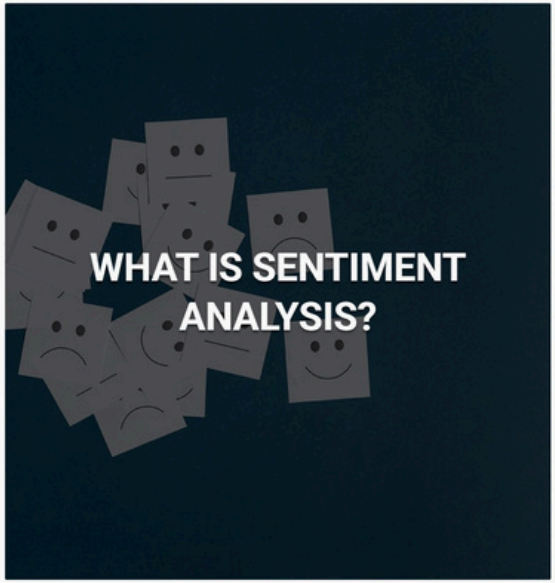


EXPLORING SENTIMENT ANALYSIS OF CUSTOMER REVIEWS

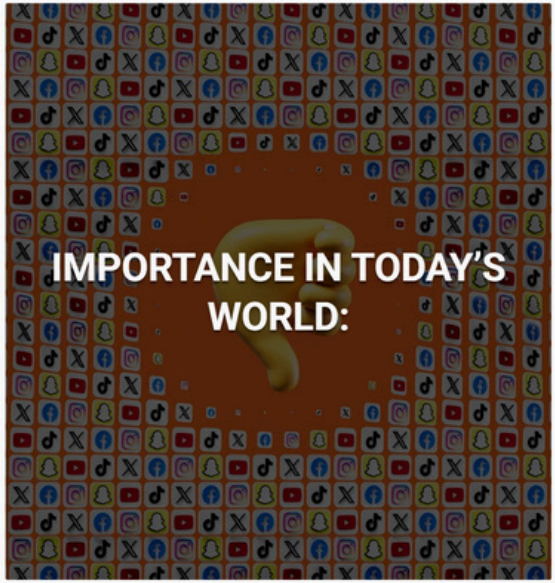
Zainab



INTRODUCTION TO SENTIMENT ANALYSIS



Sentiment analysis is the computational task of automatically determining the emotional tone behind a series of words.

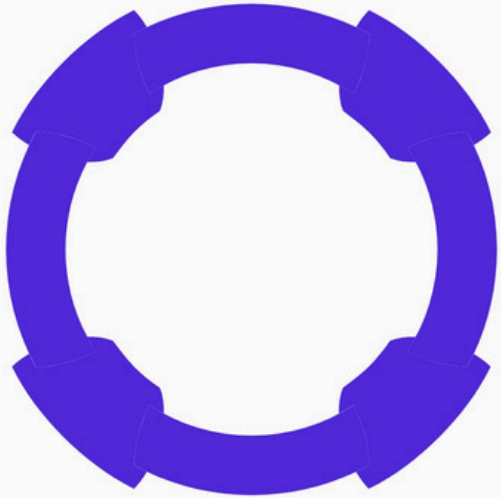


Enhances business decision-making, Assesses customer satisfaction and feedback, Analyzes social media sentiments.

OBJECTIVE OF THE PROJECT

Build a classification model for customer reviews.

Classify reviews as positive or

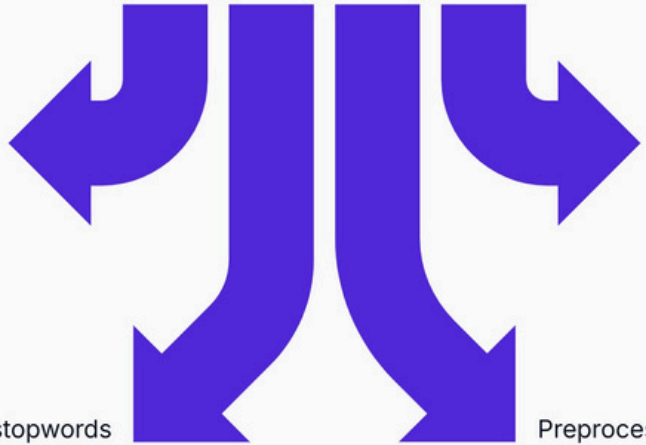


Implement the Naive Bayes

Utilize natural language processing

DATASET & PREPROCESSING

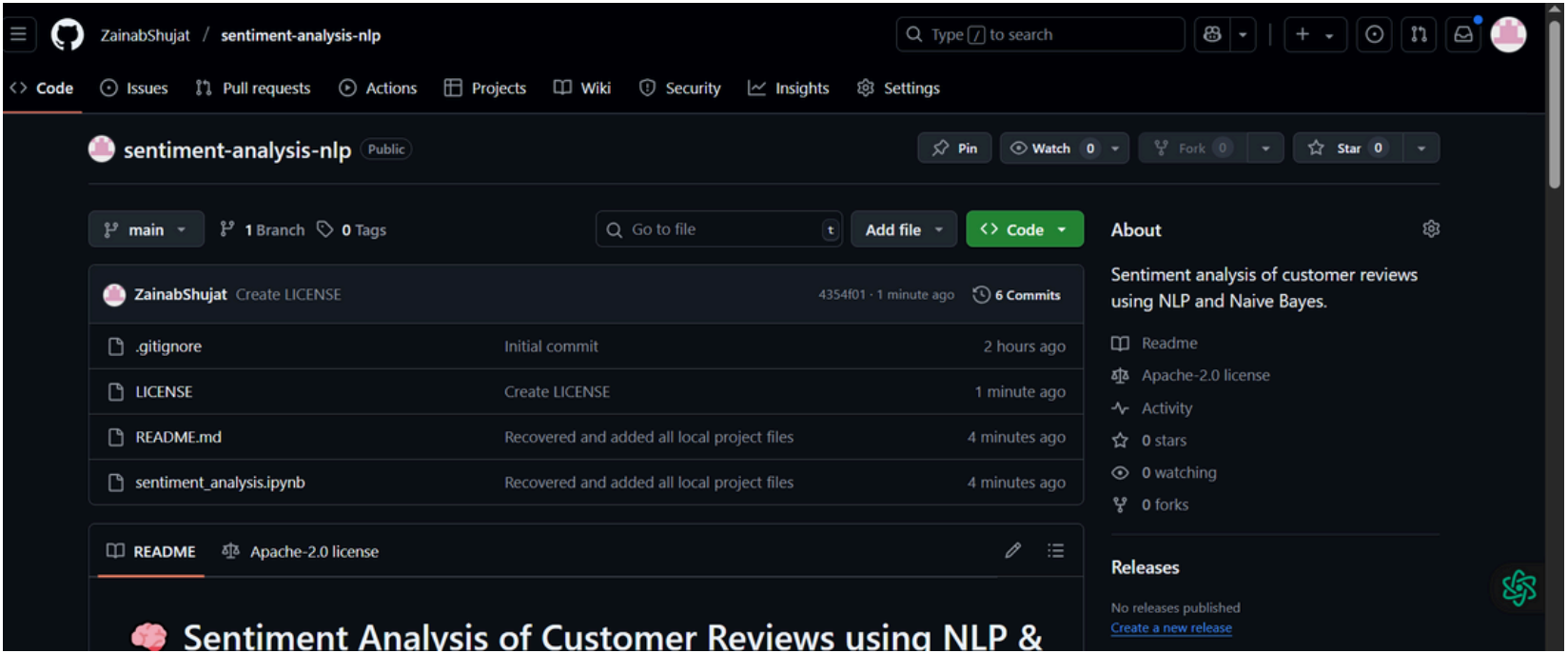
Dataset: Customer reviews dataset.



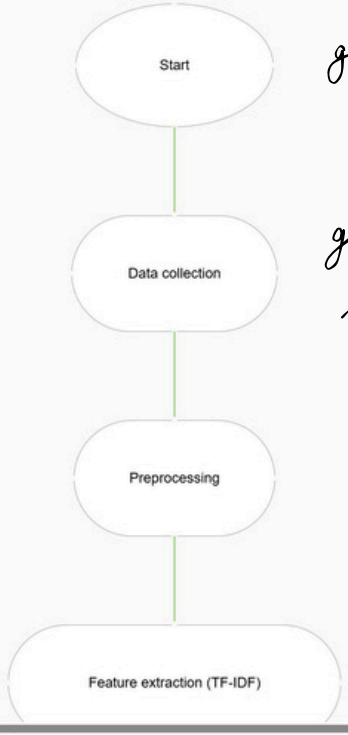
Preprocessing Steps: Tokenization

Preprocessing Steps: Removing stopwords

Preprocessing Steps: Stemming


ZainabShujat / sentiment-analysis-nlp
Type / to search
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
sentiment-analysis-nlp
Public
Pin
Watch 0
Fork 0
Star 0
main
1 Branch
0 Tags
Go to file
t
Add file
Code
ZainabShujat Create LICENSE
4354f01 · 1 minute ago
6 Commits
.gitignore
Initial commit
2 hours ago
LICENSE
Create LICENSE
1 minute ago
README.md
Recovered and added all local project files
4 minutes ago
sentiment_analysis.ipynb
Recovered and added all local project files
4 minutes ago
README
Apache-2.0 license
Sentiment Analysis of Customer Reviews using NLP &
About
Sentiment analysis of customer reviews using NLP and Naive Bayes.
Readme
Apache-2.0 license
Activity
0 stars
0 watching
0 forks
Releases
No releases published
Create a new release

METHODOLOGY



getting basic knowledge of the project

going to kaggle and selecting an ideal dataset

Training the model on this data set, trying and testing the model.

IMPLEMENTATION TOOLS

Main Tools Used

Key technologies utilized for building and deploying the sentiment analysis

NLTK

Natural Language Toolkit, used for processing and analyzing textual data.

Pandas

A data manipulation and analysis library in Python, crucial for data handling.

Python

A versatile programming language used for data processing and model development.

Streamlit

A framework for building interactive web applications for data science projects.

scikit-learn

A machine learning library in Python used for model training and evaluation.

Model accuracy

Evaluates overall model performance.

Indicates how well the model predicts the correct labels.

Confusion matrix

Visual representation of classification performance.

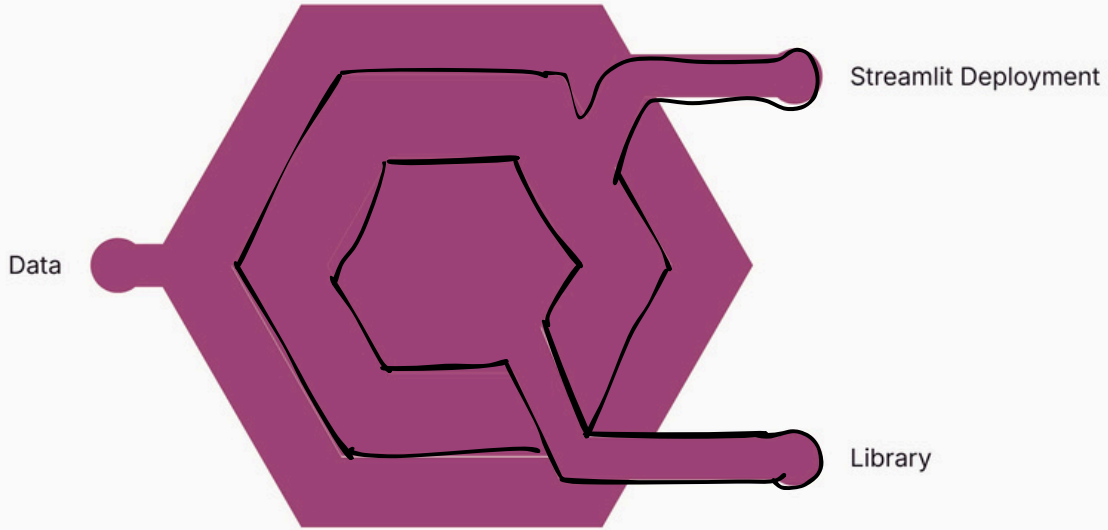
Shows the counts of true positive, true negative, false positive, and false negative predictions.

Precision and recall

Measures of classification quality.

Precision indicates the correctness of positive predictions, while recall measures the ability to find all positive instances.

CHALLENGES FACED



LEARNINGS

Personal and Technical Learnings:

Description of a primary

Working with NLP for the first time

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Understanding Naive Bayes algorithm

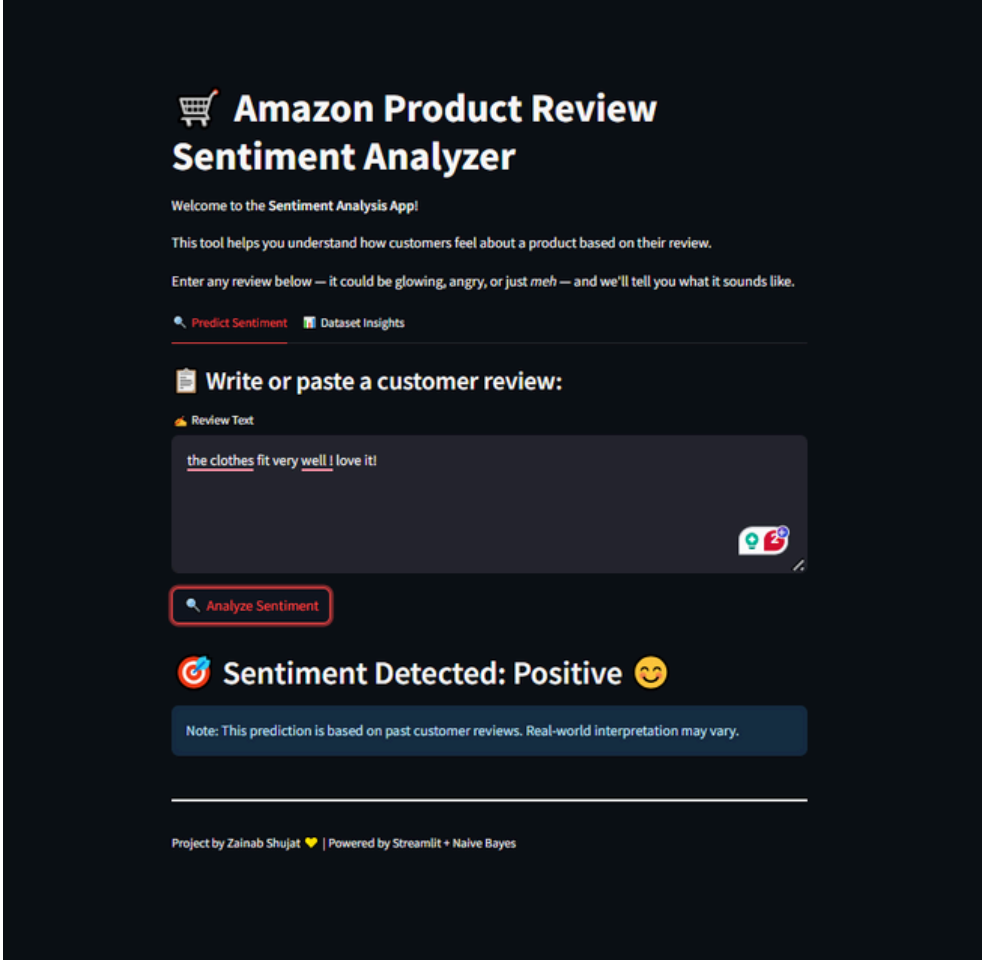
Description of a primary

Debugging

Description of a primary

Presenting findings clearly

Description of a primary



← Project title

} review area

← Sentiment detection

🛒 Amazon Product Review Sentiment Analyzer

Welcome to the **Sentiment Analysis App!**

This tool helps you understand how customers feel about a product based on their review.

Enter any review below — it could be glowing, angry, or just *meh* — and we'll tell you what it sounds like.

🔍 Predict Sentiment | 📊 Dataset Insights

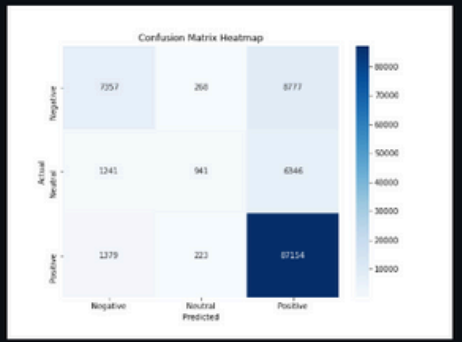
📊 Visual Insights from the Dataset

These WordClouds show the most frequent words in each sentiment category:

Positive Reviews | Negative Reviews | Neutral Reviews

🎯 Confusion Matrix Heatmap

This heatmap shows how well the model performed across each sentiment class.



Project by Zainab Shujat ❤️ | Powered by Streamlit + Naive Bayes

Second tab

} word clouds generated dynamically

} heatmap of the confusion matrix

Final Takeaways & A Note of Thanks

This project helped me explore the real-world application of Natural Language Processing and Machine Learning in a hands-on way.

Using Naive Bayes for sentiment classification gave me foundational insight into both text preprocessing and probabilistic modeling.

Through this process, I also learned how to debug, adapt my approach, and deploy my work using Streamlit — which made me realize how much of data science is about problem-solving beyond just writing code.

I'm grateful for the opportunity to work on this project and thankful to [Mentor/Faculty Name if you want] for their support.

👉 **You can try the final app here: zainab-sentiment-analysis.streamlit.app**

Zainab Shujat