

SENTIMENT ANALYSIS

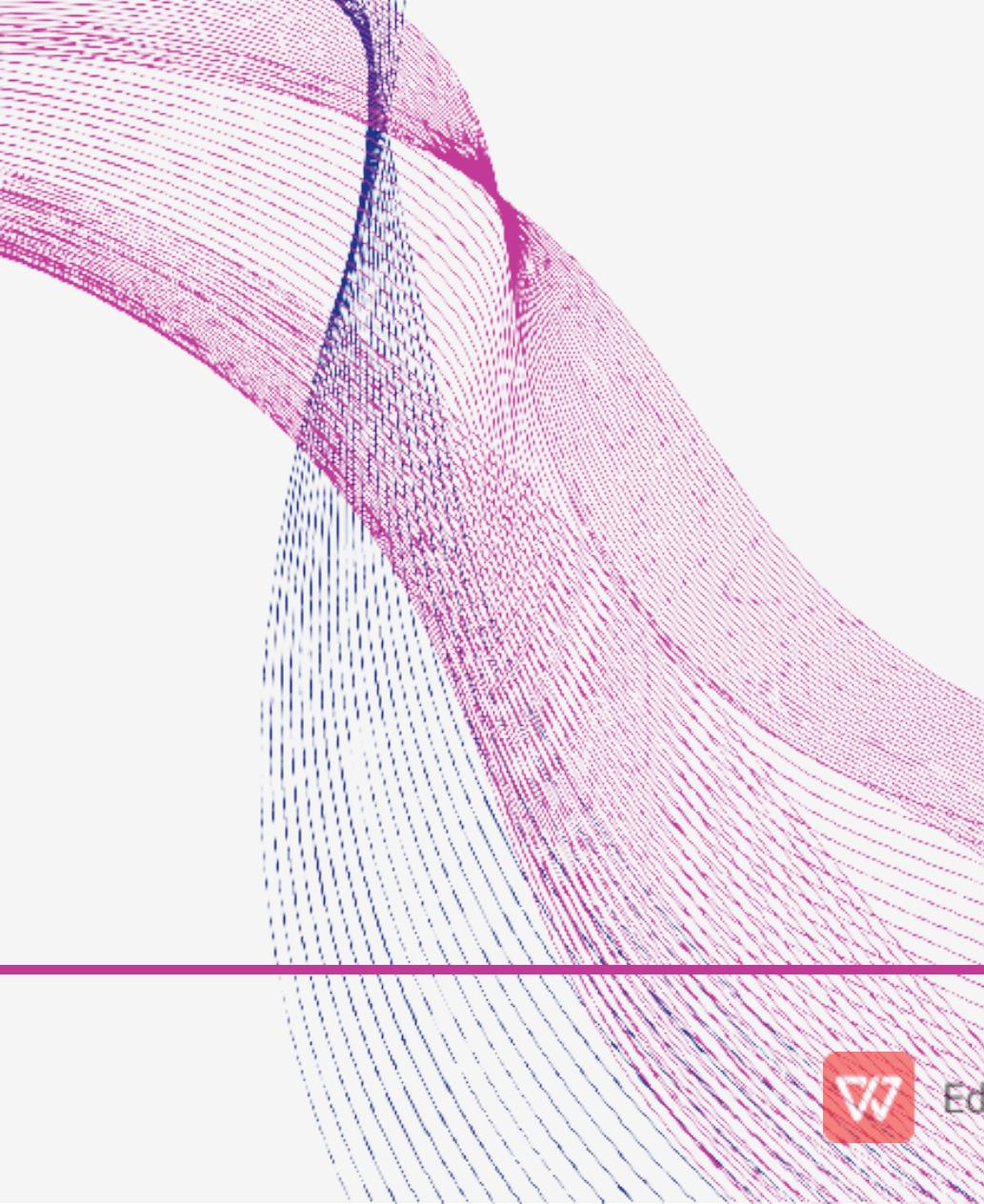
RESTAURANT REVIEWS

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OUTLINE

Problem Statement Proposed System/Solution
System Development Approach (Technology Used) Algorithm
& Deployment
Result Conclusion Future Scope
References



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PROBLEM STATEMENT

Develop a sentiment analysis model to classify reviews as positive or negative



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PROPOSED SOLUTION

Objective:

Enhance customer satisfaction and restaurant reputation by analyzing customer feedback through sentiment analysis

Solution Overview:

1. Data Collection: 1. Gather reviews from various platforms (e.g., Yelp, Google, TripAdvisor).

2. Data Preprocessing: 1. Clean and tokenize reviews.

2. Remove stop words and perform stemming/lemmatization.

3. Sentiment Analysis: 1. Utilize Natural Language Processing (NLP) techniques.

2. Implement models like VADER, TextBlob, or machine learning classifiers (e.g., Naive Bayes, SVM).

4. Insights and Reporting: 1. Visualize sentiment distribution.

2. Identify common themes and frequent words in negative and positive reviews.

5. Integration and Automation: 1. Deploy a real-time sentiment analysis tool. 2. Integrate with the restaurant's feedback system for continuous monitoring.

Benefits:

- Enhanced Customer Experience:

- Address issues promptly based on negative feedback.

- Data-Driven Decisions:

- Base restaurant management decisions on comprehensive analysis of customer sentiment.

Tools and Technologies:

- NLP Libraries: NLTK, spaCy

- Machine Learning Frameworks: Scikit-learn, TensorFlow

- Visualization Tools: Matplotlib, Seaborn, PS Office



SYSTEM APPROACH

- The "System Approach' section outlines the overall strategy and methodology for developing and implementing the restaurant reviews prediction system. Here's a suggested structure for this section: System requirementsLibrary require to build the model::



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ALGORITHM AND DEPLOYMENT

- Algorithm: naive bayes, svm, logistic regression, decision trees and random forests Deployment:
 - Loading Data: Use Pandas to load and manage review data.
 - Text Cleaning: Remove HTML tags, special characters, and numbers.
 - Tokenization: Split text into words using NLTK Stemming/Lemmatization: Reduce words to their base form
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RESULT

- Present the results of the machine learning model in terms of its accuracy and effectiveness in predicting restaurant reviews .
Include visualizations and comparisons between predicted and actual counts to highlight the model's performance.



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CONCLUSION

- In conclusion, sentiment analysis of restaurant reviews is a powerful tool for understanding customer perceptions and driving improvements in the dining experience. By leveraging advanced machine learning and deep learning techniques, restaurants can gain valuable insights and maintain a competitive edge in the market.



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FUTURE SCOPE

- Discuss potential enhancements and expansions for the system. This could include incorporating additional data sources, optimizing the algorithm for better performance, and expanding the system to cover multiple cities or regions. Consider the integration of emerging technologies such as edge computing or advanced machine learning techniques.



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REFERENCES

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PROJECT LINK

<https://github.com/daggubatinarendra/Narendra-AIML.git>



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THANK YOU



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