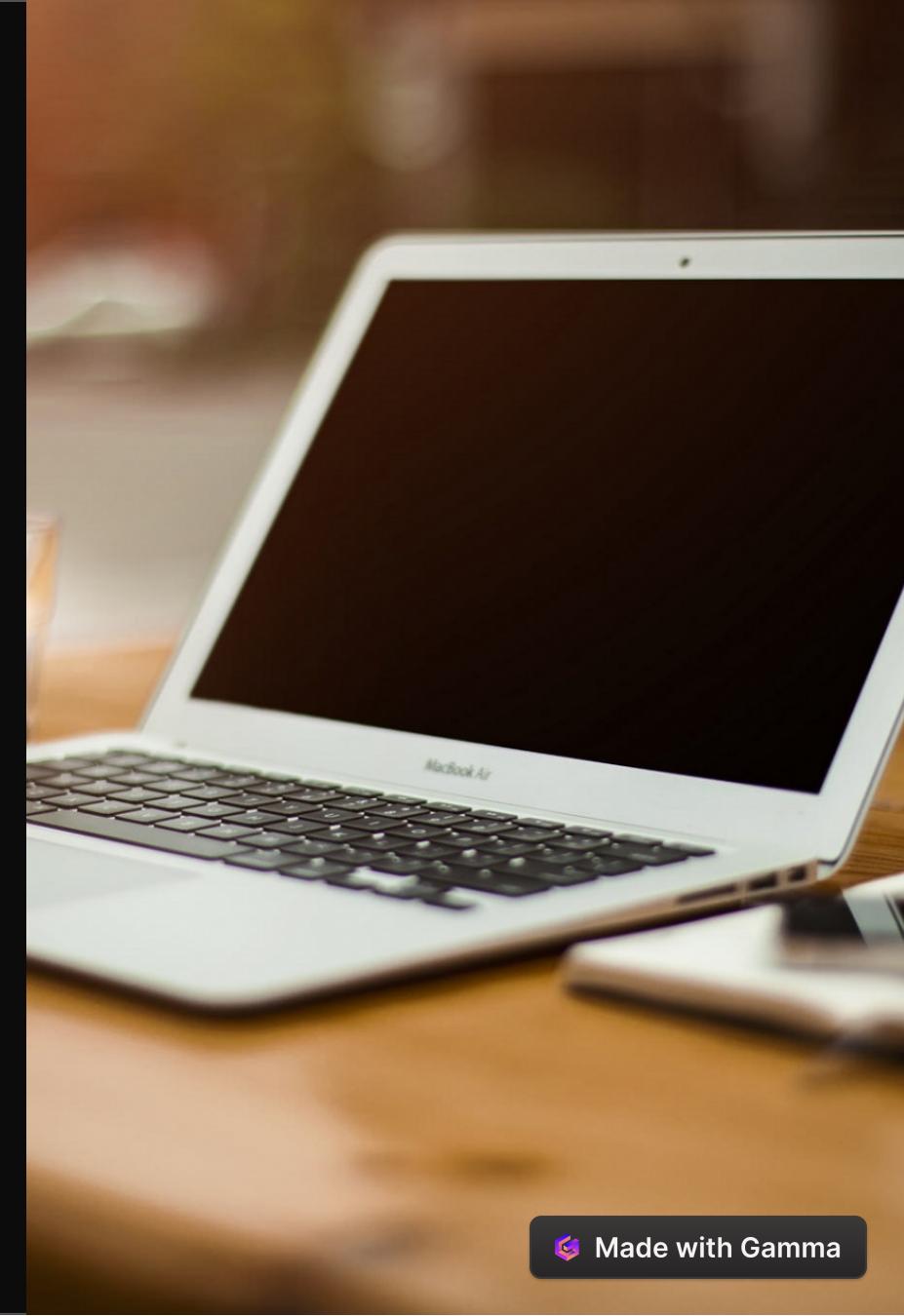


# Twitter Sentiment Analysis

Welcome to my presentation on Twitter Sentiment Analysis, my first project in natural language processing. Get ready to dive into the world of analyzing emotions on social media!



# Introduction to Twitter Sentiment Analysis

## 1 What is Sentiment Analysis?

Learn about the process of analyzing emotions expressed in tweets and understanding people's **opinions**.

## 2 Why Analyze Tweets?

Discover the importance of Twitter sentiment analysis for businesses, political campaigns, and brand management.

# Acknowledgment to Professor Arnav Sir

## Guidance and Support

Expressing gratitude to Arnav sir for his invaluable assistance throughout the project.

## Encouragement and Motivation

Highlighting the positive impact of his mentorship on my journey in natural language processing.

## Key Lessons Learned

Sharing the valuable lessons and insights gained from Arnav sir's expertise and guidance.

- Email address - [arnav@iitmandi.ac.in](mailto:arnav@iitmandi.ac.in)

# MULTINOMIAL BAYES CLASSIFIER

## <coding>

```
i in people.data.users:  
    response = client.api.statuses.user_timeline.get(screen_name=i.screen_name)  
    print 'Got', len(response.data), 'tweets from', i.screen_name  
    if len(response.data) != 0:  
        ldate = response.data[0]['created_at']  
        ldate2 = datetime.strptime(ldate, '%a %b %d %H:%M:%S +0000')  
        today = datetime.now()  
        howlong = (today - ldate2).days  
        if howlong < daywindow:  
            print i.screen_name, 'has tweeted in the past' , daywindow  
            totaltweets += len(response.data)  
            for j in response.data:  
                if j.entities.urls:  
                    for k in j.entities.urls:  
                        newurl = k['expanded_url']  
                        urlset.add((newurl, j.user.screen_name))  
    else:  
        print i.screen_name, 'has not tweeted in the past', 0
```

## Explanation of Multinomial Bayes Classifier

I learned the Multinomial Naive Bayes classifier and understand how it is used for sentiment analysis.

# Results: Achieving 85% Accuracy

## Data Collection

Details on gathering and cleaning the dataset to ensure data quality.

## Training and Testing

Explaining the process of training the classifier and testing its accuracy.

## Evaluation Metrics

Highlighting the key evaluation metrics used to measure the performance of the classifier.

# Challenges Faced During the Project

1

## Data Preprocessing

Overcoming challenges in cleaning and preprocessing tweet data for effective sentiment analysis. In this, I used "NLTK" library.

2

## Imbalanced Classes

Tackling the issue of imbalanced sentiment classes and finding solutions for accurate analysis.

3

## Overfitting

Addressing the problem of overfitting and optimizing the classifier's performance.



# Future Scope and Conclusion



## Visualize Insights

Exploring the potential of data visualization to enhance the presentation and interpretation of sentiment analysis results.



## Improving Algorithm Performance

Discussing ongoing research and potential enhancements to achieve higher accuracy and better sentiment analysis.



## Project Takeaways

Summarizing the key learnings and achievements from this project and its impact on future endeavors.