AI Sentiment Analyzer for Product Reviews

This presentation showcases an innovative AI Sentiment Analyzer developed during my internship with AICTE and Microsoft, focusing on enhancing product review analysis.

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Challenges in Analyzing Customer Feedback

- **High Volume of Reviews**
  Businesses face thousands of product reviews daily, making analysis overwhelming.
- **Manual Analysis is Inefficient**
  Reading and analyzing reviews manually is slow and can lead to inconsistencies in insights.
- **Sentiment Identification is Key**
  Understanding customer sentiment is crucial for improving service and product quality.
- **Need for Automation**
  Automated tools can help streamline the process of analyzing feedback efficiently.
- **Improving Customer Experience**
  By analyzing feedback, businesses can make informed decisions to enhance customer experience.

Beginner-Friendly AI Sentiment Detection

Harnessing AI to Analyze Customer Feedback

Project Objective

Develop a simple AI project to analyze customer feedback sentiment.

Understanding Sentiment

Classify reviews as positive, neutral, or negative to aid businesses.

Tools Used

Utilize easy-to-use AI tools like TextBlob in Google Colab for analysis.

Target Audience

Designed for beginners interested in AI and data analysis.

Business Benefits

Help businesses improve customer engagement by understanding feedback.

Automation Potential

Automate sentiment analysis to save time and resources for companies.

Tools and Technologies for Project Development

An overview of the tools employed in my project

Tool/Technology	Description
Google Colab	Free online coding platform (no installation needed)
Python	Beginner-friendly programming language
TextBlob	AI library for natural language processing
CSV File	Stores product reviews used for analysis

Analyzing Customer Reviews for Sentiment

A comprehensive guide to sentiment analysis

Upload CSV file with reviews

Begin the process by uploading a CSV file containing customer reviews for analysis.

Analyze reviews with Python

Utilize Python and the TextBlob library to analyze the sentiment of each review systematically.

Classify sentiment into categories

Classify each review's sentiment as Positive, Neutral, or Negative based on the analysis results.

Display results visually

Organize and display the sentiment analysis results in a comprehensive table or chart for easier interpretation.

AI Code: Sentiment Analysis using TextBlob

This Python code reads customer reviews from a CSV file and uses TextBlob to classify each review as Positive, Neutral, or Negative.

CODE:

```
import pandas as pd
from textblob import TextBlob
import matplotlib.pyplot as plt

# Load the reviews CSV file
df = pd.read_csv("sample_reviews.csv")

# Define a function to check sentiment
def get_sentiment(text):
```

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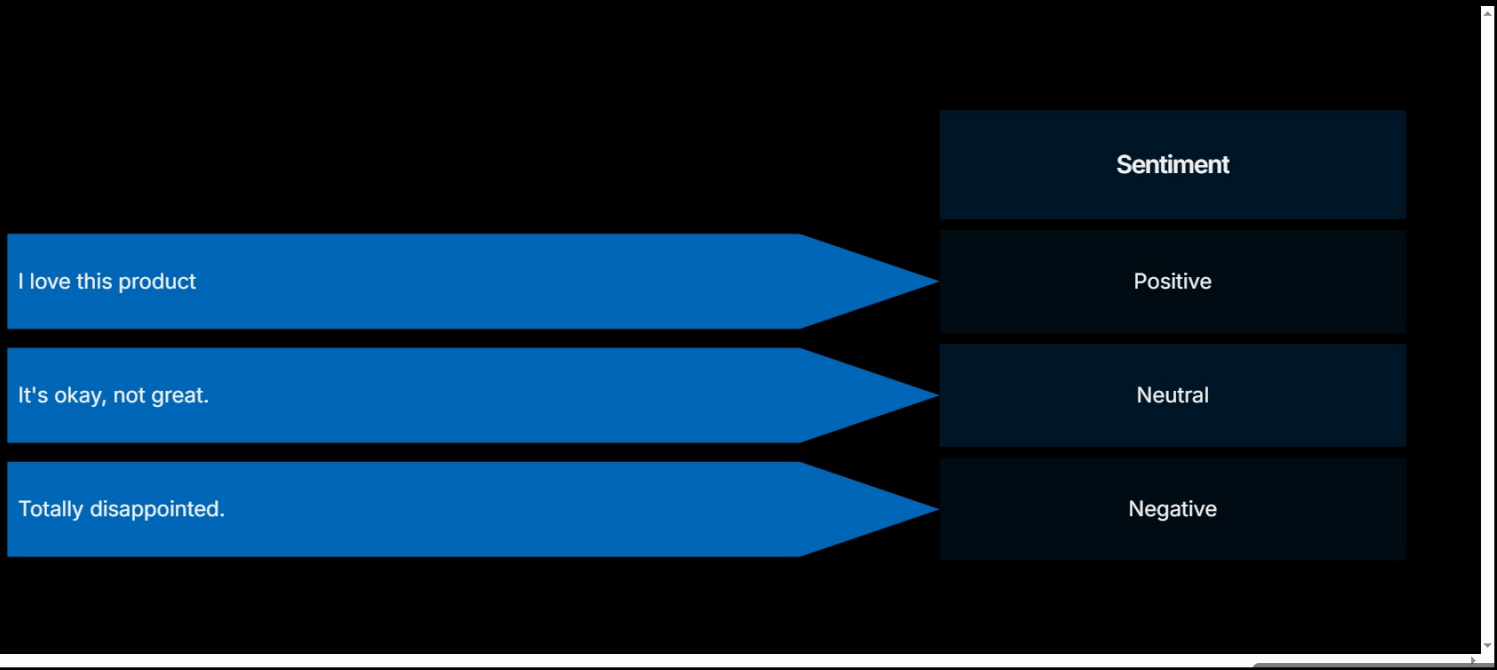
Insights from Product Review Sentiment

Analyzing consumer feedback sentiment levels



Understanding Sentiment Analysis Code

Utilizing TextBlob for Sentiment Analysis

TextBlob is a Python library that simplifies text processing, ideal for sentiment analysis.

Defining the Sentiment Function

The function 'get_sentiment' processes reviews to determine their polarity score.

Polarity Score Interpretation

A polarity score ranges from -1 (negative) to 1 (positive), indicating sentiment strength.

Integrating with Google Colab

Google Colab is a cloud-based tool allowing easy execution of Python code, enhancing accessibility.

Applications in Product Reviews

This code can analyze product reviews, helping businesses understand customer sentiment.

Sentiment Distribution of Product Reviews

Analysis of Positive, Neutral, and Negative Sentiments

01 The model identified 65 positive sentiments, indicating a favorable reception of the product.

02 A neutral sentiment count of 20 suggests some reviews were non-evaluative or mixed.

03

Source: Companies Market Cap

Insights Gained from My AI Project

Key insights gained from developing an AI Sentiment Analyzer

Understanding AI Language Processing

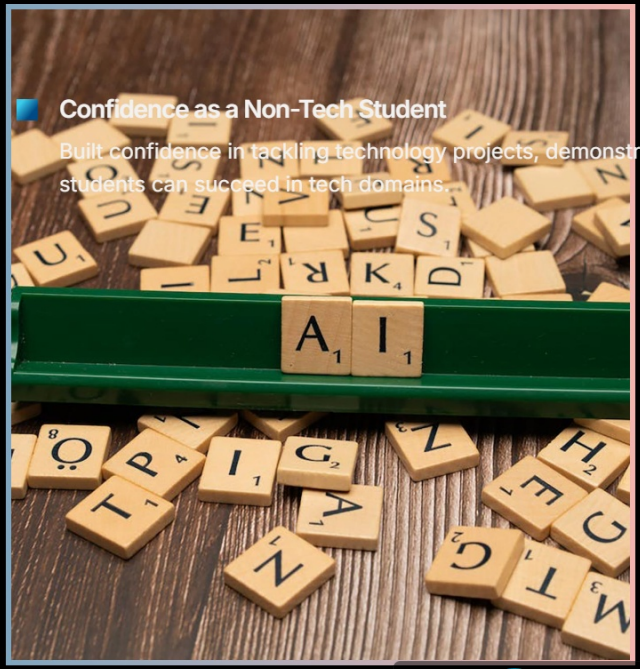
Gained insight into how AI interprets and categorizes human language effectively.

Python and TextBlob Mastery

Learned to utilize Python and TextBlob for practical sentiment analysis tasks in real-world scenarios.

Data Analysis in Google Colab

Explored data analysis techniques using Google Colab and managed CSV files for effective data handling.



Confidence as a Non-Tech Student

Built confidence in tackling technology projects, demonstrating th
students can succeed in tech domains.

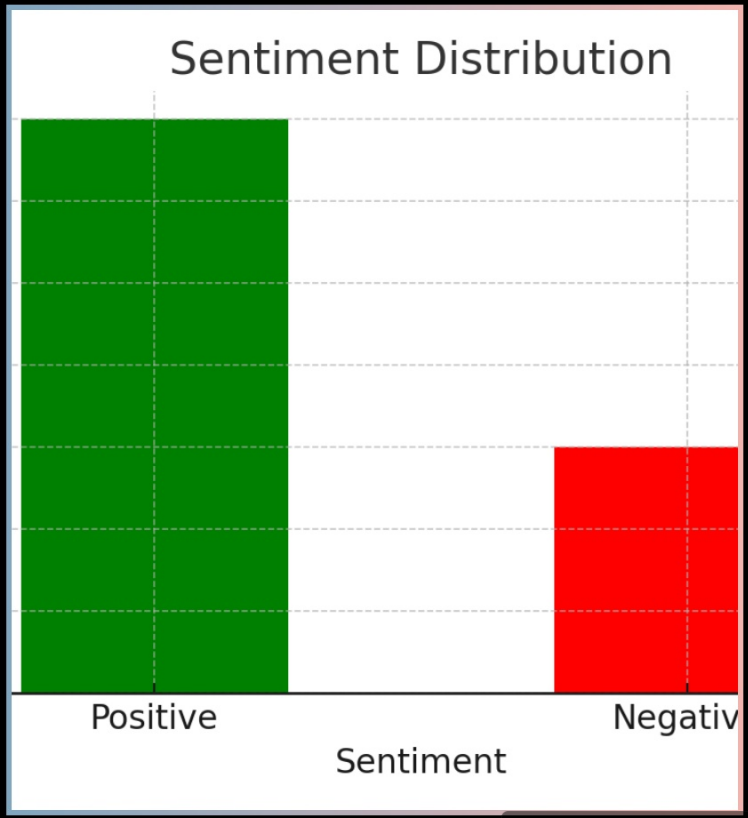
SECTION 01

Sample Output – Sentiment Classification Table

Review	Predicted Sentiment
The product is amazing!	Positive
I'm really disappointed.	Negative
It was okay, nothing special.	Neutral
Absolutely loved it!	Positive
Not worth the money.	Negative
Just fine, nothing more.	Neutral
Super happy with the service.	Positive
Worst experience ever.	Negative
Mediocre at best.	Neutral
Highly recommend this!	Positive

Output Table (Preview of Results)

Review | Sentiment
"The product is amazing!" | Positive
"It was okay, nothing special." | Neutral
"I'm really disappointed." | Negative



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Thank You for Your Attention and Participation

We appreciate your engagement throughout the AICTE – Microsoft Virtual Internship. Stay tuned for future opportunities and insights.