Social Media Sentiment Analysis for Product Feedback

Data Nexus

Team members-

Ruchi Jha - rj2807

Tanvi Takavane- tt2884

Neha Patil - np2998

Introduction

- Social media is filled with user opinions, especially when new products are released.
- Businesses need a way to track and understand customer reactions in real time.
- Our goal is to analyze social media sentiment to help companies make smarter decisions after product launches.
- This enables companies to respond quickly to negative feedback and amplify positive engagement.
- It also supports product teams in identifying common issues and feature requests from real users.

Core Problem:

"Can we build a model that analyzes social media posts to determine public sentiment toward newly launched products?"

Our project aims to build a sentiment analysis pipeline that processes social media data, identifies the public's emotional response to product launches, and classifies those responses into sentiment categories such as positive, negative, or neutral.

By doing this, businesses will be able to:

- Monitor how their products are being received in real-time.
- Adjust marketing strategies based on sentiment trends.
- Improve product features or services in response to common complaints or praise.
- Engage with customers more effectively by understanding their concerns.

This system acts like a digital "feedback radar," giving companies a way to tune into the voice of the customer without needing formal surveys or reviews.

NYU

About the Dataset

- **Source**: Kaggle – "Social Media Sentiments Analysis Dataset" by Kashish Parmar
- **Size**: 732 rows and 15 columns
- **Dataset Creation**:
    - Scraped from various social media platforms using APIs and public datasets
    - Labeled using a combination of keyword-based filtering and manual verification
- **Key Feature:** Sentiment
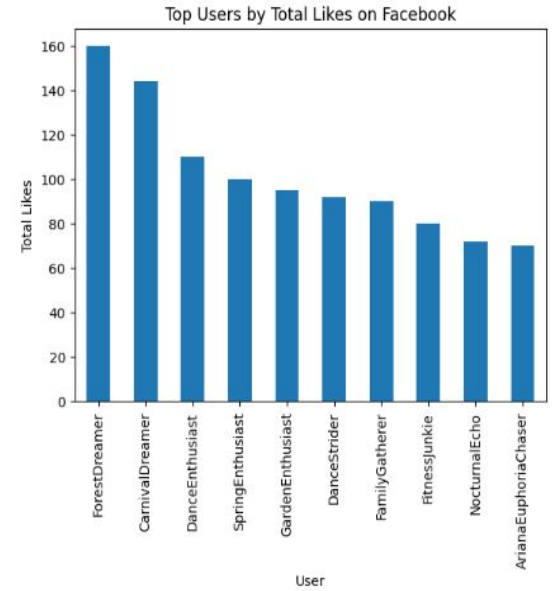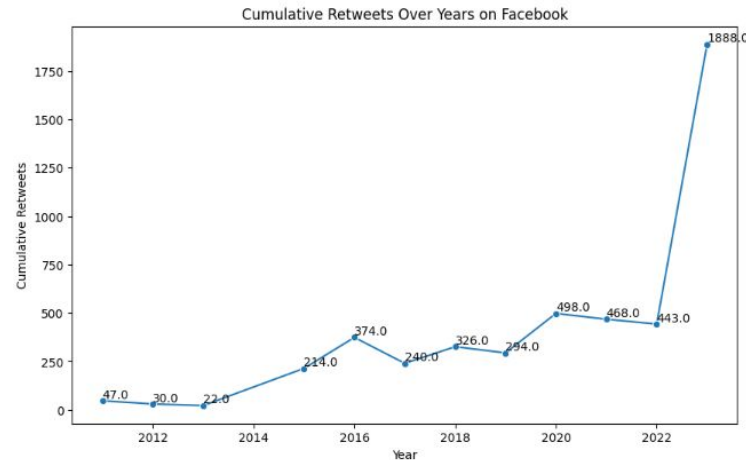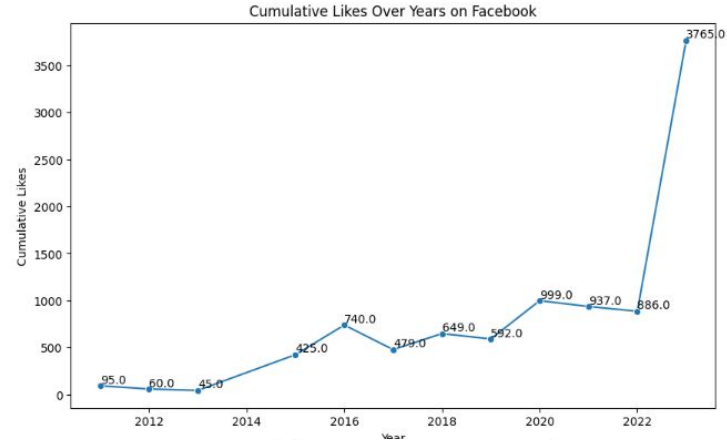- **Categories of sentiment :** 279
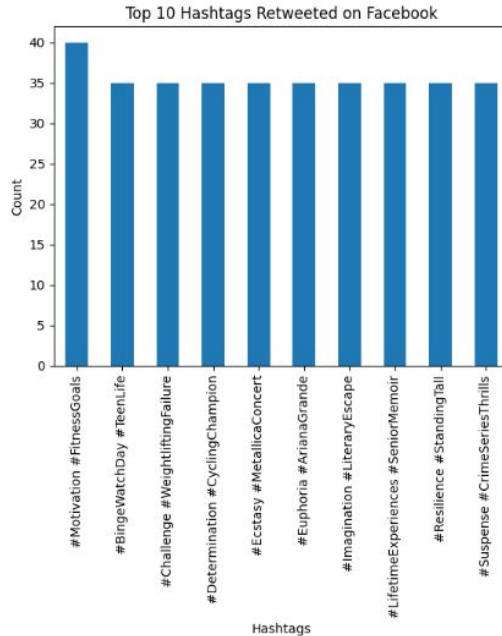
Tools & Technologies Used

- Python (Pandas, Numpy, Scikit-learn, NLTK, Matplotlib, Seaborn)
- Jupyter Notebook
- Kaggle Dataset

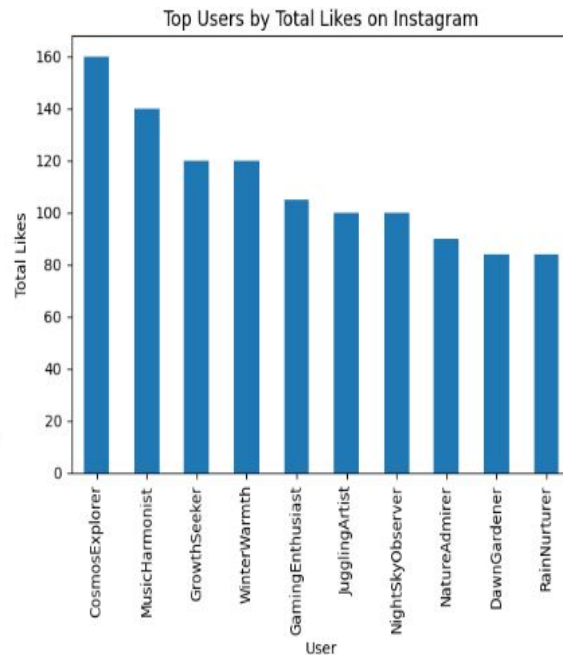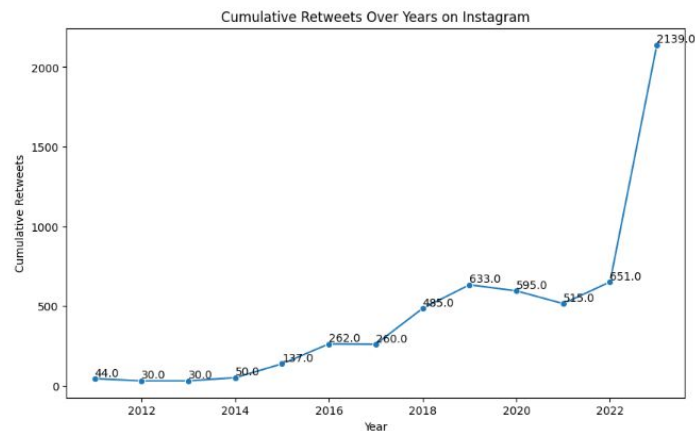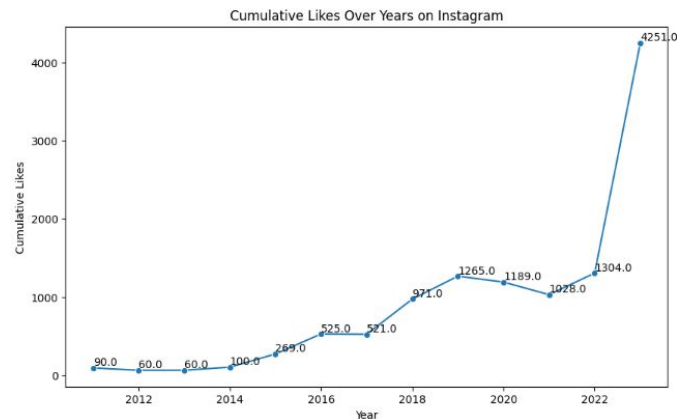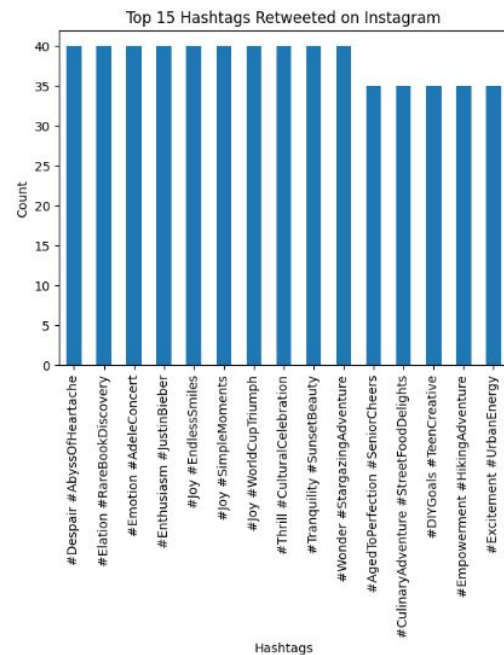# Data Cleaning & Preprocessing

- Dropped unwanted columns
- Renamed column Unnamed column to ID
- Converted Timestamp to Datetime format for standardization
- Removed leading and trailing spaces from string based columns
- Checked for missing values - No missing values found
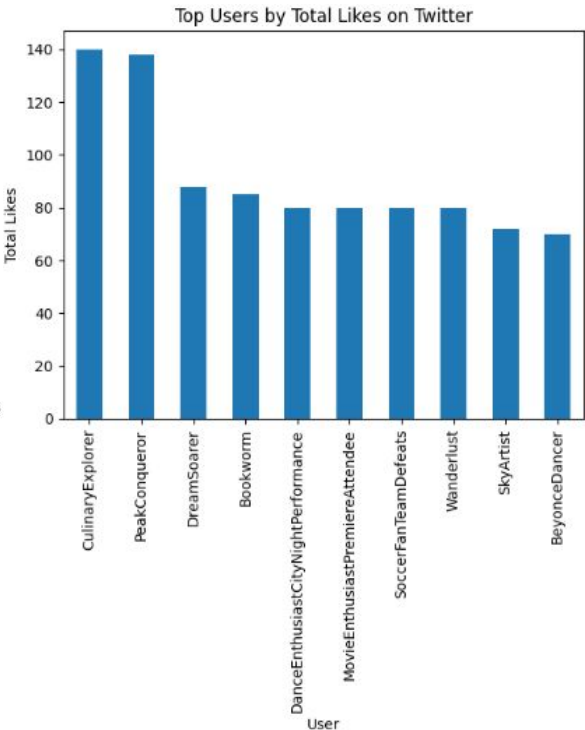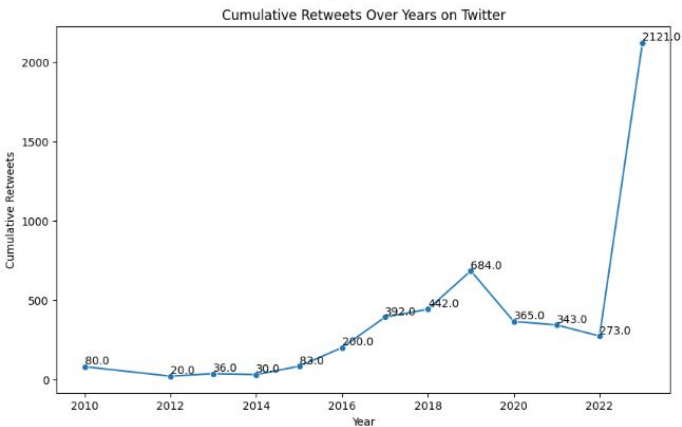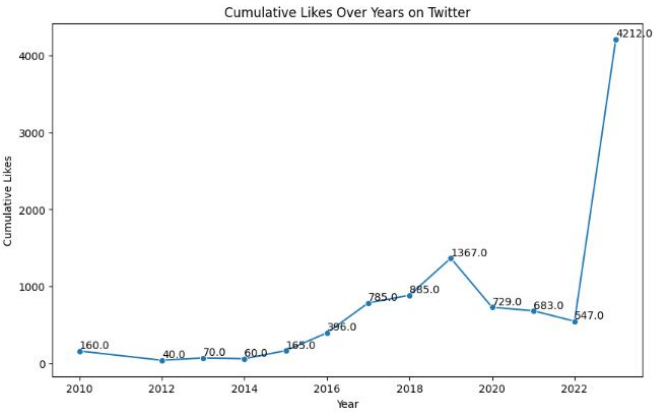
Plots for different Platforms:

1. Facebook

Top 10 Hashtags Retweeted on Facebook

Cumulative Likes Over Years on Facebook

Cumulative Retweets Over Years on Facebook

Top Users by Total Likes on Facebook

2. Instagram

Top 15 Hashtags Retweeted on Instagram

Cumulative Likes Over Years on Instagram

Cumulative Retweets Over Years on Instagram

Top Users by Total Likes on Instagram

3. Twitter

Top 10 Hashtags Retweeted on Twitter

Cumulative Likes Over Years on Twitter

Cumulative Retweets Over Years on Twitter

Top Users by Total Likes on Twitter

Thank you