

# Project Report: Sentiment Analysis on Social Media

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## 1. Project Objective

To perform sentiment analysis on social media posts (specifically Twitter) related to the Ahmedabad plane crash.

## 2. Environment Setup

- Created a project folder named 'sentiment\_analysis'.
- Set up a virtual environment and installed required Python packages (tweepy, vaderSentiment, textblob, matplotlib).
- Created a .env file to store Twitter API credentials securely.

## 3. Data Collection

- Registered for Twitter Developer access.
- Used Tweepy to fetch 50 relevant tweets using a keyword-based search query.
- Saved the tweets into a text file (tweets.txt) for further analysis.

## 4. Sentiment Analysis with VADER

- Applied VADER sentiment analyzer to compute polarity scores for each tweet.
- Classified tweets as Positive, Neutral, or Negative based on the compound score.

## 5. Sentiment Summary

- Counted and summarized the number of tweets in each sentiment category.
- Printed summary results in terminal.

## 6. Data Visualization

- Used matplotlib to generate a pie chart and bar chart.
- Visualized the distribution of sentiments in a clear and engaging format.
- Saved charts as PNG files.

## 7. Report Generation

- Created a professional PDF report (sentiment\_report.pdf) containing:
  - Project overview
  - Sentiment summary
  - Visual charts
- This current PDF (sentiment\_analysis\_phases\_report.pdf) provides a narrative of each project phase.