📘 Stock Sentiment Analysis Using News Headlines

1. Objective

The objective of this project is to analyze public sentiment regarding a specific stock (e.g., Infosys) by collecting and evaluating recent news headlines. By analyzing sentiment trends, the project aims to provide insights into how media coverage may influence stock perception over time.

2. Tools and Technologies Used

Tool/Library	Purpose
Python	Core programming language
feedparser	RSS feed parsing
textblob	Sentiment analysis (NLP)
pandas	Data manipulation and analysis
matplotlib	Data visualization
VS Code / CMD	Development and execution environment

3. Methodology

Step 1: Data Collection

- RSS feed collected using Google News for the last 30 days
- Query example: https://news.google.com/rss/search?q=Infosys+when:30d

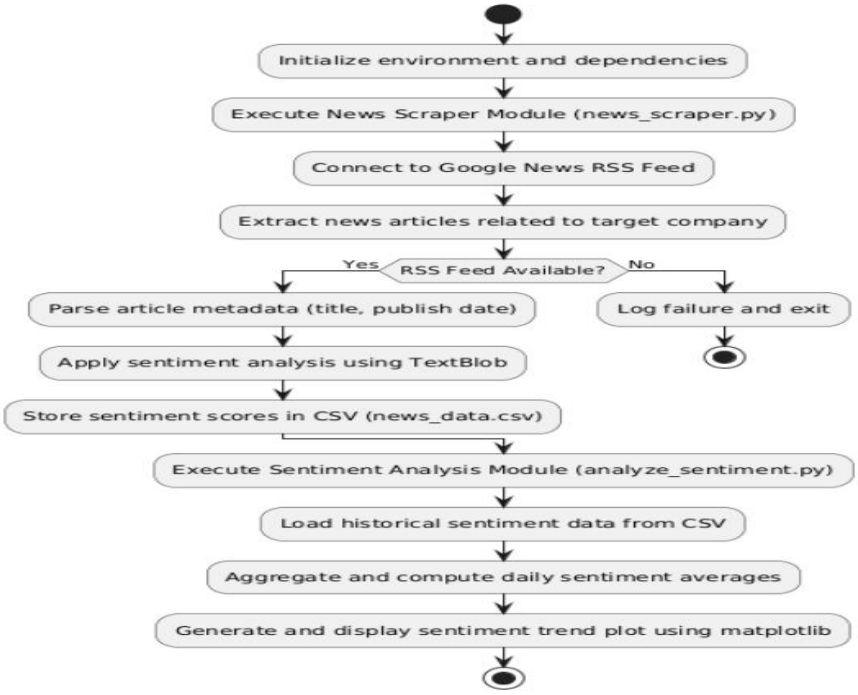
Step 2: Sentiment Analysis

- Headlines analyzed using TextBlob for polarity score
- Score ranges from -1 (negative) to +1 (positive)

Step 3: Data Storage and Visualization

- Processed data saved to CSV
- Sentiment trend visualized using line plot grouped by date

4.Workflow Description



5.Sample Output

Date	Title	Sentiment
2025-07-01	Infosys shares up after Q1 results	0.2
2025-07-01	Infosys stock downgraded by analysts	-0.3

Graphical output shows sentiment trend over time.

6. Challenges Faced

- Package installation errors (feedparser, matplotlib)

- Parsing RSS feed date formats

- Sentiment calculation from short titles

8. Conclusion

This project provides an end-to-end solution for stock sentiment analysis using real-world news headlines. It demonstrates how natural language processing (NLP) techniques can help investors or researchers gain insights into media sentiment trends related to a specific company.

9. Future Enhancements

- Expand to multiple companies with comparison

- Correlate sentiment with stock prices

- Deploy interactive dashboard using Streamlit or Flask

- Use advanced NLP models like BERT or VADER for better sentiment accuracy

10. References

- https://news.google.com/

- https://textblob.readthedocs.io/

- https://matplotlib.org/

- https://pythonhosted.org/feedparser/