1. Introduction to the Project

Project Name: AI News to Social Media Bot(AI-Powered Social Media Content Generator)

Purpose:
This project fetches AI-related news articles, summarizes them, and posts them automatically to social media platforms (Twitter, LinkedIn, Instagram) using pre-b

Overview:
The system works by:
Fetching AI news articles from an online source(**NewsAPI)**.
Summarizing the content using a local LLaMA model(**llama 3.1**).
Generating social media posts for Twitter (and optionally LinkedIn and Instagram).
Posting the generated content to the relevant social media accounts using APIs.

2. Project Setup and Running Instructions

Requirements:
Python 3.7 or higher

Required libraries:

streamlit
requests
json
llama (for LLaMA models)
instagrapi (for Instagram posting, optional)
Twitter and LinkedIn API keys (you must create developer accounts for each platform and obtain API keys).

Step-by-Step Guide:

-->Install Required Libraries
We need to install the dependencies before running the scripts, we can run the requirements.txt file to install them.

-->Get API Keys:
Twitter: Create a developer account and generate our API keys (Consumer Key, Consumer Secret, Access Token, Access Token Secr et).
LinkedIn: Set up a LinkedIn Developer Application and obtain our API keys (Client ID, Client Secret).
Instagram: Use the instagrapi library for Instagram. We may need to set up an Instagram account or use an existing one for au thentication

-->Configuration:
Create a config.py file to store our API keys securely.

-->Run the Application:
To run the Streamlit app, navigate to the folder containing the Python file and run it using streamlit run <file_name>

-->Using the Application:

Once the app is running, we can go to the provided URL (typically http://localhost:8501) in browser.
Click the "Fetch & Post News" button to start fetching AI news and post them to our social media accounts.

3. Description of Each Script's Functionality

1. fetch_news.py: Trending News Fetching
Purpose: Fetches the latest AI news articles from a specified source.
Functionality: Uses the requests library to scrape or access a news API and returns a list of articles.

2. summarize.py: Content Generation
Purpose: Summarizes the fetched articles using a locally running LLaMA model.
Functionality: Sends the content of an article to the LLaMA model via an HTTP request and retrieves the summary.

3. generate_post.py: Post Formatting & Media
Purpose: Generates social media posts based on the summarized articles.
Functionality: Formats the summary and article URL into a suitable post for platforms like Twitter, LinkedIn, and Instagram.

uilt APIs.

4. post.py: Posting
Purpose: Handles the posting of generated content to social media platforms.
Functionality: Uses the API keys to authenticate and post to Twitter, LinkedIn, or Instagram.

5. main1.py:
Purpose: Main script that integrates the entire workflow.
Functionality: Coordinates the fetching of news, summarizing, post generation, and posting. It also includes error handling and saves output to files (e.g., saved po

6. dashboard.py
Purpose:
Provides a user-friendly web interface using Streamlit to manually trigger the AI news workflow, including fetching, summarizing, generating, and posting content
Functionality:
Acts as a visual control panel where users can interact with the bot using buttons.
When the "Fetch & Post News" button is clicked, the app:
Fetches the latest AI news using fetch_ai_news().
Summarizes each article using summarize_article().
Generates a Twitter-ready post using generate_twitter_post().
Posts the content to Twitter via post_to_twitter().
Displays success messages in the browser after each post.
Includes optional integration (commented out by default) for posting to LinkedIn and Instagram.
Uses st.balloons() for visual feedback on successful completion.
Ideal for demoing the project in a clean, non-code interface.

Additionally, I have also stored the output of each script in order to ensure successful running of each script.
Namely,
fetched_news : to store news article related to ai fetched from NewsAPI
summarized_news : to store summary of the news article along with its title and url in json format
latest_post : to store the post generated before posting it to Twitter

4. Example Usage

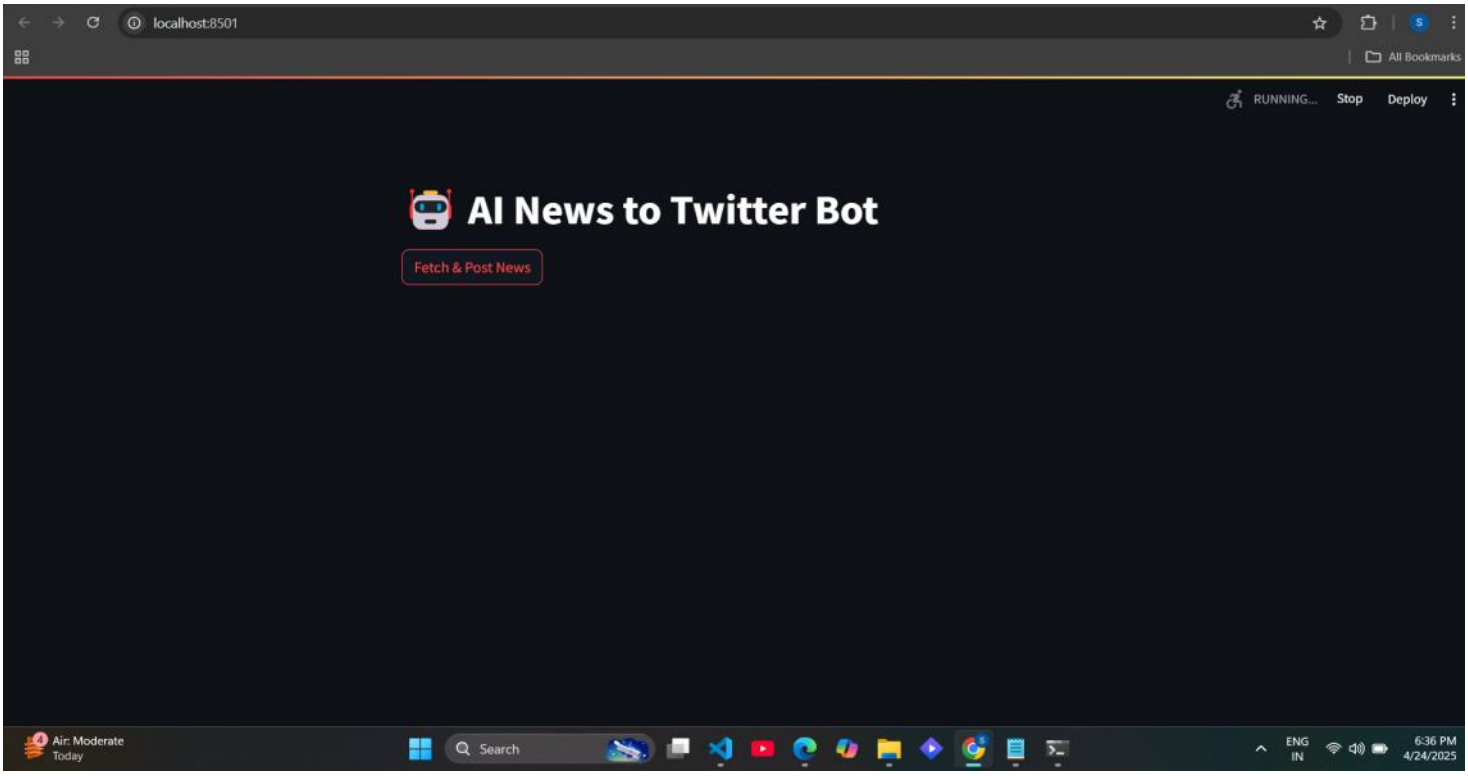
Scenario 1: Posting News to Twitter

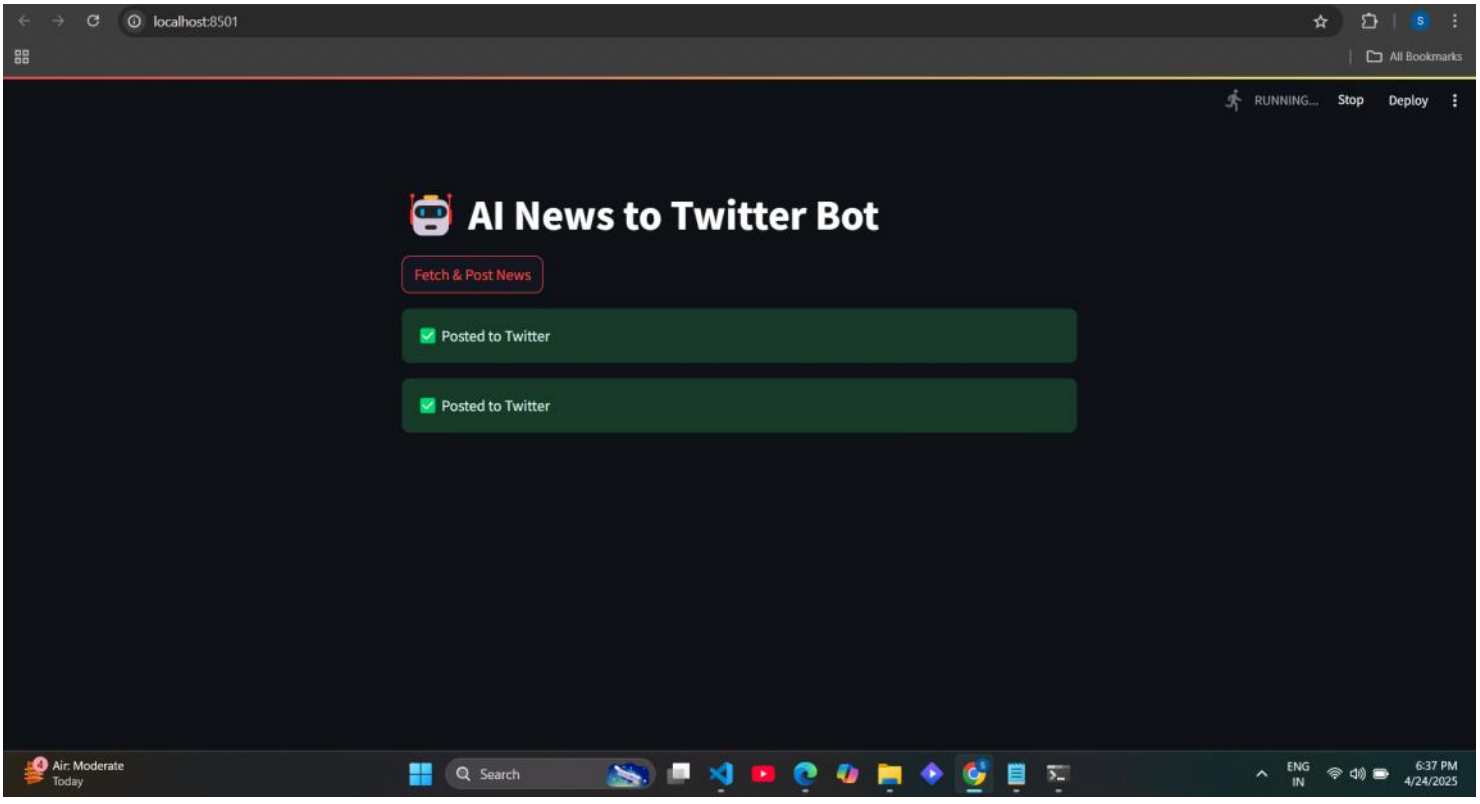
We fetch the latest AI news, and the app automatically generates a Twitter post and publishes it.

Screenshots:

ost or summarized articles).

t to social media platforms.

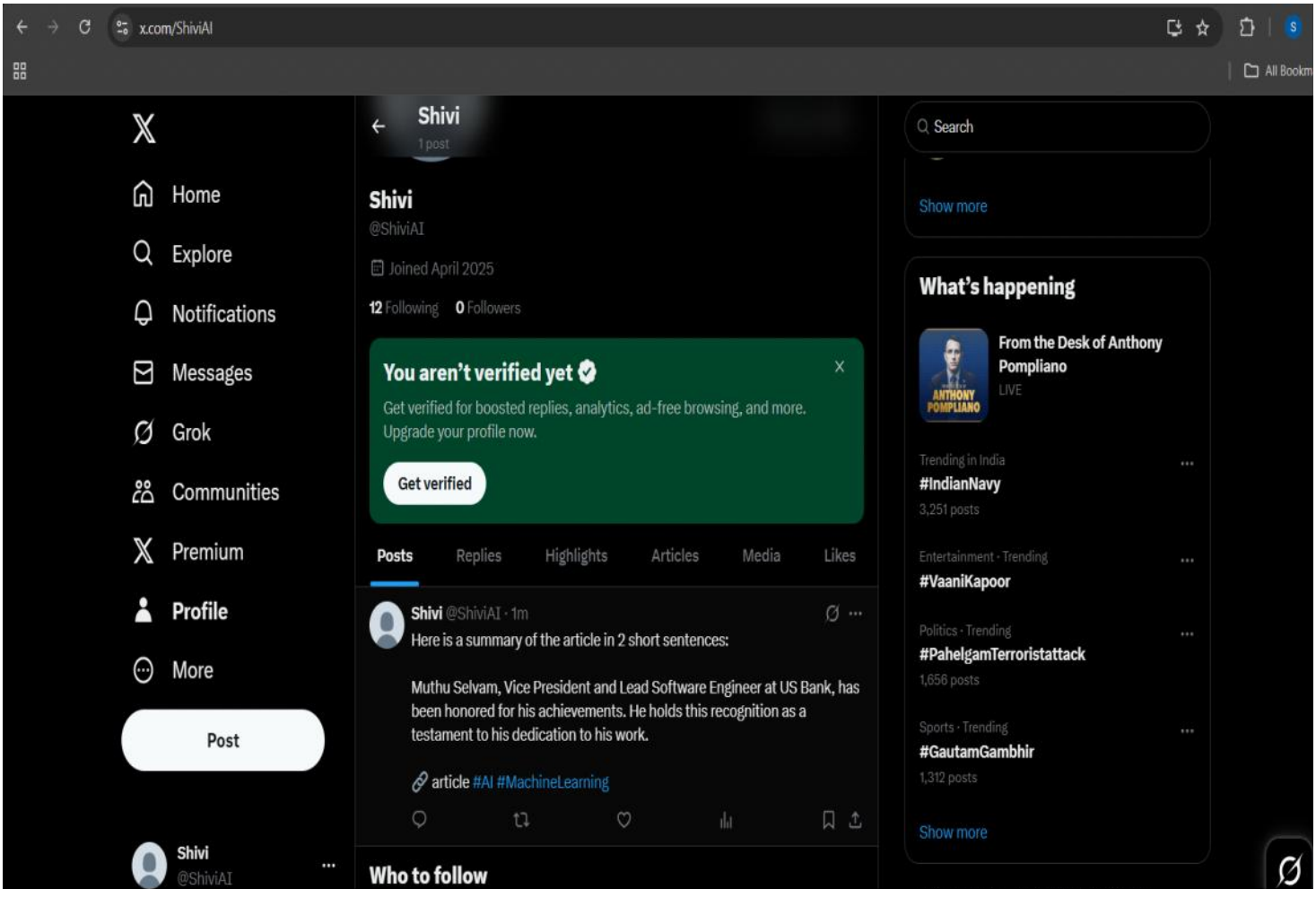

localhost:8501
All Bookmarks
RUNNING...
Stop
Deploy
AI News to Twitter Bot
Fetch & Post News
Air: Moderate
Today
Search
ENG
IN
6:36 PM
4/24/2025

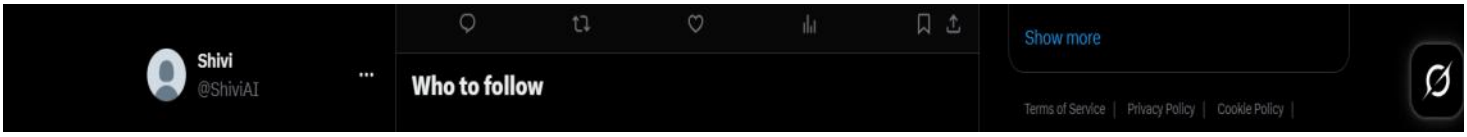

localhost:8501
All Bookmarks
RUNNING...
Stop
Deploy
AI News to Twitter Bot
Fetch & Post News
Posted to Twitter
Posted to Twitter
Air: Moderate
Today
Search
ENG
IN
6:37 PM
4/24/2025

```
C:\Windows\System32\cmd.e
Microsoft Windows [Version 10.0.26100.3775]
(c) Microsoft Corporation. All rights reserved.

D:\ai_content_gen_bot>python testing_gen_post.py
 Post saved to latest_post.txt
✅ Tweet posted! Tweet ID: 1915349243751268825

D:\ai_content_gen_bot>
```

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