Instagram Hashtag Sentiment Analyzer

Overview

The **Instagram Hashtag Sentiment Analyzer** is a project that:

1. **Scrapes Instagram Posts and Comments**:
    - Scrapes Instagram posts and comments based on a specific hashtag using Selenium.
    - Supports two modes:
        - `light` mode: Scrapes 5 posts and 5 comments per post.
        - `deep` mode: Scrapes 10 posts and 10 comments per post.
2. **Performs Sentiment Analysis**:
    - Analyzes the sentiment of post captions and comments using a pre-trained model (`Hate-speech-CNERG/indic-abusive-allInOne-MuRIL`) from Hugging Face.
    - Classifies text as either:
        - **Non-Abusive**
        - **Abusive**
3. **Displays Results in a Web Interface**:
    - Shows the scraped posts, comments, and sentiment analysis results in a structured format.
    - Embeds the actual Instagram posts (or profiles) alongside the analysis.

Features

- Scrape Instagram posts and comments for any hashtag.
- Perform sentiment analysis on captions and comments.
- Display results with embedded Instagram posts in a user-friendly web interface.

Prerequisites

Before running this project, ensure you have the following installed:

1. **Python** (>= 3.8)
2. **pip** (Python package manager)
3. **Google Chrome** (latest version)
4. **ChromeDriver** (compatible with your Chrome version)
5. Required Python packages:
    - `selenium`
    - `transformers`
    - `torch`
    - `flask`
    - `flask_cors`

Installation Guide

Follow these steps to set up and run the project:

Step 1: Clone the Repository

```
git clone https://github.com/yourusername/InstagramHashtagSentimentAnalyzer.git
cd InstagramHashtagSentimentAnalyzer
```

Step 2: Install Dependencies

Install all required Python packages:

```
pip install selenium transformers torch flask flask_cors
```

Step 3: Set Up ChromeDriver

1. Download ChromeDriver from here.
2. Place the ChromeDriver executable in your system's PATH or in the project directory.

Step 4: Configure Instagram Credentials

Update the login credentials in `hashtag_scraper.py`:

How to Run the Project

Step 1: Start the Backend Server

Run the Flask server:

```
python server.py
```

The server will start at `http://localhost:5000`.

Step 2: Access the Web Interface

Open your browser and navigate to `http://localhost:5000`. You'll see a form where you can:

1. Enter the hashtag you want to scrape (e.g., `crimepatrol`).
2. Select the analysis type (`light` or `deep`).
3. Click the "Analyze Hashtag" button.

Step 3: Scraping and Analysis

Once you submit the form:

1. The backend triggers **hashtag_scraper.py** to scrape Instagram posts and comments based on your input.
2. The scraped data is saved temporarily in `instagram_hashtag_posts.json`.
3. The backend performs sentiment analysis on captions and comments using the model defined in **model.py**.
4. The results are displayed on the webpage, including:
    - Post captions with sentiment labels and confidence scores.
    - Comments with sentiment labels and confidence scores.

License

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