

Fact-Checking System Setup Guide

1. Extract the ZIP File

- Unzip the project folder to your preferred location.

2. Set Up a Virtual Environment

- Open a terminal or command prompt in the project folder.
- Run the following command to create a virtual environment:

For Windows:

```
python -m venv venv
```

For Mac/Linux:

```
python3 -m venv venv
```

- Activate the virtual environment:

For Windows:

```
venv\Scripts\activate
```

For Mac/Linux:

```
source venv/bin/activate
```

3. Install Dependencies

```
pip install -r requirements.txt
```

4. Run the Streamlit App

- Start the Streamlit app with:

```
streamlit run Home.py
```
- The application should open in your browser.
- Use the sidebar to enter and save your Hugging Face API token.

5. Add Your Hugging Face API Token

Manually Setting API Key for CLI Usage

If you prefer using the CLI version (`main.py`), you need to set the API key manually.

Method 1: Using an Environment Variable (Temporary, Session-Based)

- **Windows (Command Prompt):**
set HUGGINGFACEHUB_API_TOKEN=your_api_token_here
- **Mac/Linux:**
export HUGGINGFACEHUB_API_TOKEN=your_api_token_here
- This method only works for the **current session**. If you restart the terminal, you'll need to set the key again.

Method 2: Using a `.env` File (Permanent, Project-Based)

- Create a file named `.env` in the root directory and add:
HUGGINGFACEHUB_API_TOKEN=your_api_token_here

Setting the API Key Using the Sidebar for Streamlit App

- Open the Streamlit app, navigate to the "LLM Implementation" screen.
- Enter your **Hugging Face API token** in the **sidebar**.
- The token will be automatically saved for your session.

6. Run the Project

Streamlit App

- Run:
streamlit run app.py
- Open the app in your browser and enter your API key in the **sidebar**.

CLI-Based Usage (`main.py`)

- Run the CLI version with:
python main.py --query "Your fact-checking statement here"
- Make sure you have set up the API key using either **Method 1 (export)** or **Method 2 (.env file)**.

7. Troubleshooting

- **ModuleNotFoundError?** Ensure the virtual environment is activated before running the app.
- **Streamlit not found?** Run `pip install streamlit` inside the virtual environment.
- **API errors?** Ensure you have entered the correct Hugging Face API token.

Overview

1. Enter a claim to fact-check in the input box.
2. If a similar claim exists in the ChromaDB, the system will return a result, augmented by the LLM's reasoning to explain it.
3. If no similar claim is found, an LLM-based fact-checking API will be used.
4. Review the response and analyze the credibility of the claim.

Possible Future Enhancements

- Add support for more LLMs (e.g., GPT-4, Claude).
- Improve fact-checking accuracy with fine-tuned models using more robust data.
- Implement a feedback mechanism to refine results.