Accent Detector - Full Setup Guide

Overview

A simple Flask API that accepts a video URL, extracts and transcribes the audio using Faster Whisper, and analyzes the speaker's English accent using Google Gemini AI.

1. Clone the Repository

git clone https://github.com/your-username/accent-detector.git

cd accent-detector

2. Create a Virtual Environment

On Windows PowerShell:

```
python -m venv venv
.\venv\Scripts\Activate.ps1
```

On macOS/Linux:

```
python3 -m venv venv
source venv/bin/activate
```

3. Install Required Python Packages

pip install -r requirements.txt

4. Add Your Gemini API Key

Create a `.env` file inside the `utils/` folder with the following line:

GOOGLE_API_KEY=your_google_gemini_api_key_here

5. Install and Configure FFmpeg

Download FFmpeg from https://www.gyan.dev/ffmpeg/builds/

Extract the zip, go to the 'bin/' folder path (e.g., C:\ffmpeg\bin), and:

Windows:

Add it to System Environment Variables > Path

macOS/Linux:

export PATH="$PATH:/path/to/ffmpeg/bin"

Then test with: ffmpeg -version

6. Run the Flask App

python app.py

Default: http://127.0.0.1:5000

7. Using the API

Send a POST request to /analyze with JSON:

{

"video_url":

"https://commondatastorage.googleapis.com/gtv-videos-bucket/sample/BigBuckBunny.mp4"

}

8. Example Response

{

"accent": "American",

"confidence": 75,

"summary": "The accent resembles American English based on pronunciation patterns."

}

9. Logs

Transcripts and summaries saved to: logs/accent_results_TIMESTAMP.txt

Raw Gemini responses saved to: logs/gemini_responses.txt

10. Supported Video URL Types

- YouTube: https://www.youtube.com/watch?v=...

- Streamable: https://streamable.com/abc123

- Vimeo: https://vimeo.com/12345678

- Direct .mp4/.webm/.mkv URLs

- Facebook (public videos)

- Twitter, TikTok, Instagram, SoundCloud, Bilibili, PeerTube, Rumble, etc.

- Any URL yt-dlp supports