Moodify

Table of Contents

- Moodify
 - Table of Contents
 - Requirements
 - Project Structure
 - Notes
 - Installation
 - Additional Setup Instructions
 - Usage
 - Docker

Requirements

- 1. Python 3.9.18
- 2. Docker installed on your system
- 3. Docker-compose installed on your system
- 4. FFmpeg
 - o To check if FFmpeg is install, run the following in terminal

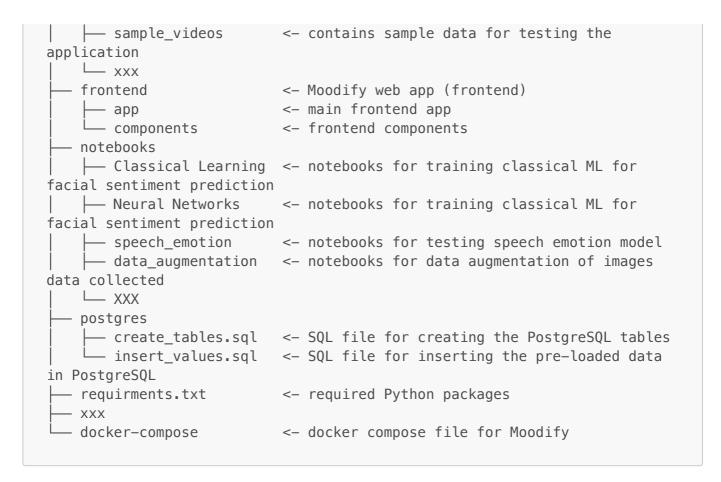
```
ffmpeg -version
```

If you see a version number, that means ffmpeg is installed. Otherwise, please follow the next step to install it.

- Download and install FFmpeg from FFmpeg
 - For windows, you may find a guide on PhoenixNap

Project Structure

```
<- Moodify web app (backend)
     — Dockerfile
                           <- for dockerising app
      — main.py
      - src
         — face_detection <- for detecting faces in videos</p>
        ├─ Mood_detector <- for detecting emotions from facial
expression
         — speech_emotion <- for detecting emotions in speech</p>
         — speech_to_text <- for transcription service</pre>
                   <- contains sql scripts
      - sql
  - data
                           <- contains datasets for training and testing
    — Faces updated
                           <- contains the latest facial data for
training and testing the model
```



Notes

To use the Moodify application, please follow the instructions in Installation, Additional Setup Instructions and Usage sections.

Installation

1. Create virtual environment

```
conda create -n moodify python=3.10.7
```

2. Activate the virutal environment

```
conda activate moodify
```

- 3. Install required packages
 - o If you are using Windows, run

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

 If you are using Mac, please switch to Windows. We do not gaurantee that the app will run without errors if you choose to run this on Mac due to Tensorflow incompatbilities on Apple

silicon.

Additional Setup Instructions

As the ML model files are too big to be committed to Github, please follow the instructions below to obtain the model files before running the application:

- 1. Go to Moodify Google Drive to access all the model files
- 2. Download the Face Detection weights:
 - In the Moodify Google Drive, go to the face_detection folder and download the yolov8n-face.pt file into the app/src/face_detection directory
- 3. Download the Mood Detector model:
 - In the Moodify Google Drive, go to the Mood_detector folder and download the trained_emotion_keras file into the app/src/Mood_detector directory

Usage

1. Start the PostgreSQL and RabbitMQ docker. In the root directory of the repository, run the following in terminal:

```
docker-compose up -d
```

2. In another terminal, activate the virtaul environment and start the Moodify backend application

```
conda activate moodify

python main.py
```

3. In another terminal, install and start the Moodify frontend application

```
npm i
```

4. In another terminal, activate the virtual environment and start the Moodify video_analyser

```
conda activate moodify

python video_analyser.py
```

If the vdeo_analyser.py stops running / face issues, repeat this step to re-run the script in the terminal.

- 5. Access the Moodify application at http://localhost:3000/
 - Open your webbrowser
 - Enter the following url: http://localhost:3000/
 - You may use the videos found in data/sample_videos to test the application

Docker

Below are the details and instructions specific for the docker containers set-up. You need not run this to use the application.

1. Start the docker containers. In the root directory of the repository, run the following in terminal:

```
docker-compose up -d
```

- 2. Connect to Postgres on PGAdmin
 - Host: localhost Port: 5455 User: user
 - Password: password Keep the other settings as default DB available at localhost: 5455
- 3. RabbitMQ available at localhost: 5672. RabbitMQ Web UI available at localhost: 15672
- 4. To shutdown the application, run the following command.

```
docker-compose down -v
```