**Real-Time Emotion Detection using YOLOv8 and DeepFace**

This project demonstrates a real-time emotion detection system using YOLOv8 for face detection and DeepFace for emotion analysis. It captures video from a live camera feed (webcam or RTSP URL) and performs face detection and emotion recognition in real-time.

**Prerequisites**

To run this project, make sure you have the following dependencies installed:

* Python (3.8+)
* OpenCV (cv2)
* DeepFace
* Ultralyics YOLOv8

You can install these dependencies using the following command:

bash

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pip install opencv-python deepface ultralytics

**Project Structure**

* emotion.py: Main script to run the real-time emotion detection application.
* train6/weights/best.pt: Path to the YOLOv8 weights file for face detection. Replace with the correct path to your YOLOv8 model.
* Emotion: Pre-trained DeepFace model for emotion analysis.

**How to Run**

1. Save the emotion.py script on your local system.
2. Replace the path to the YOLOv8 weights file in the yolo\_model initialization in the script.
3. Run the script using: python emotion.py
4. The application will start capturing video from the default camera.
5. Press 'q' to exit the real-time detection.

**Features**

* **Real-Time Video Stream**: Continuous video feed from the camera with live face detection and emotion recognition.
* **Dynamic Confidence Threshold**: Adjustable confidence threshold for face detection.
* **User-Friendly Interface**: Displays detected faces and their emotions in real-time.