CMED:Child Micro-Expression Dataset - User Guide

Dataset Overview

This dataset provides video samples of facial micro-expressions categorized by emotional classes, along with a metadata CSV file. Each video captures a subject exhibiting a micro-expression, cropped between the **onset** and **offset** of the expression. Additionally, for emotion-labeled samples, the metadata includes the **APEX frame**, representing the point of maximum expression intensity.

Folder Structure

1. `FinalFullVideos_subjects/`

Organized hierarchically by **emotion** and then by **subject**.

```
FinalFullVideos_subjects/
│
├── Happy/
│   ├── Subject_01/
│   │   ├── vid1.mp4
│   │   └── vid2.mp4
│   └── Subject_02/
│       └── ...
├── Sad/
└── No_Emotion/
```

Use this structure if you want to analyze expressions per subject within each emotion class.

2. `FinalFullVideos/`

Flat organization — all videos of each **emotion** are in a single folder.

```
FinalFullVideos/
├── Happy/
│   ├── vid1.mp4
│   ├── vid2.mp4
│   └── ...
├── Sad/
└── No_Emotion/
```

Use this for bulk emotion-based training or testing without subject separation.

Metadata CSV (`video_emotion_metadata.csv`)

The CSV contains metadata for each video, including the **emotion label**, **subject**, **video filename**, and **APEX frame**.

Key Columns:

- `subject`: Subject ID
- `filename`: Video file name
- `emotion`: Emotion category (e.g., Happy, Sad, No_Emotion)
- `apex_frame`: Frame index (starting from 0) of the **APEX**, relative to the start of the video.

Notes:

- **APEX Frame**: Indicates the moment of maximum facial muscle intensity within the micro-expression sequence.
- **Only available for emotion-labeled samples.** If `emotion` is `No_Emotion`, the `apex_frame` will typically be blank or null.
- **Videos are pre-cropped** to only include frames from **onset** to **offset**, so the apex frame lies within this range.

Usage Tips

- To locate a video, use the `emotion`, `subject`, and `filename` fields to reconstruct the path:
    - `FinalFullVideos_subjects/{emotion}/{subject}/{filename}`
- When training models, consider:
    - Using only emotion-labeled samples if APEX frame is required (classification).
    - Ignoring or handling `No_Emotion` samples differently since they lack an apex frame.
    - Combining anger, disgust, fear, and sadness classes to a negative class and using a 3 class configuration.
- If your task doesn't require subject separation, you may prefer using the `FinalFullVideos/` directory.