The code 'Lunge\_Analyzer\_indiC.py' works for segmented videos (individual cropped chamber videos)

==========================================================================================================

Overview

--------

This script processes video files and associated score files, renaming and copying the files to a new folder. It then extracts frame numbers at which lunges occur and compiles it into CSV files.

Functionality

-------------

1. Rename and Copy Files:

- The script will rename video files and classifier score files based on predefined names, organizing them into a new folder named "score\_files".

2. Extract Lunge Frames:

- Uses MATLAB to process score files and extracts frame numbers of the lunge, saving it in a structured format.

3. Compile CSV Files:

- Compiles individual CSV files containing frame numbers into a final CSV that represents lunge bout numbers.

Requirements

------------

- Python 3.x

- MATLAB Engine API for Python: Used for MATLAB script execution.

- Required Libraries:

- os

- shutil

- csv

- glob

- numpy

- matlab.engine

Usage

-----

1. Ensure you have the necessary Python libraries installed.

2. Make sure you have the MATLAB engine set up.

3. Run the script:

- The script will ask for the complete path of the parent folder containing all videos and JAABA folders.

- The script will rename files and organize them into the "score\_files" folder.

- It will then process the score files giving output in the form of compiled CSV data.

Instructions:

-------------

1. Place your video and JAABA score files in a folder.

2. Execute the script.

3. Enter the path of the parent folder when prompted.

4. The script will generate:

- A folder named "score\_files" containing renamed and organized files.

- A compiled CSV file for the lunge classifier frame data.

Notes:

------

- Ensure that your file structure matches the expected layout for the script to process correctly.

- The script assumes specific file names for classifiers. Modify "classifier\_names" if your classifiers differ.