PyCinemetrics: Computional Cinema Studing Tool

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1- Open film file

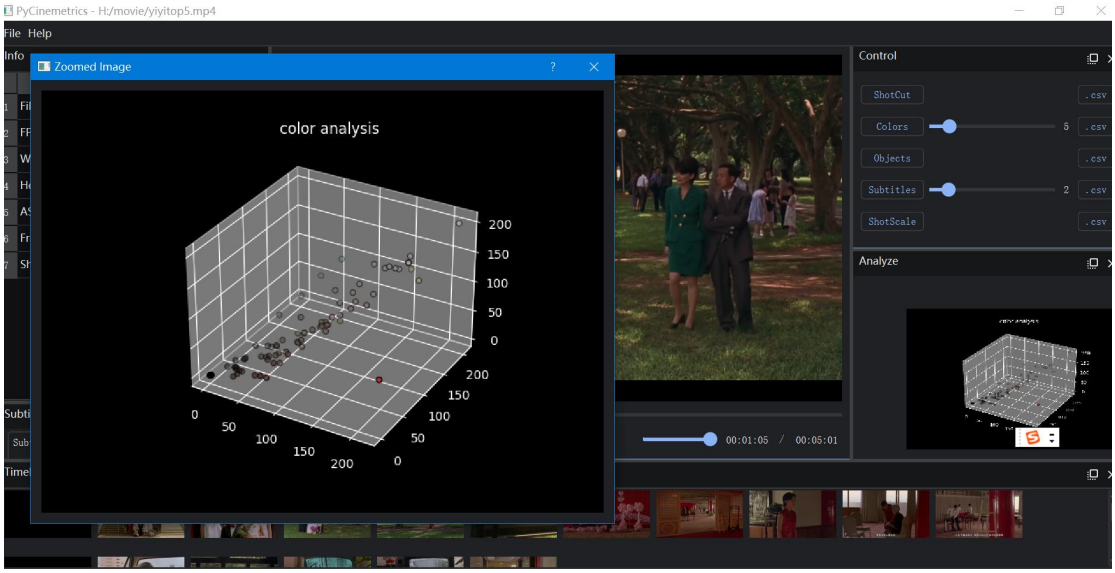
Select a video film file from local disk, and the video will be played. Basic information will be listed in info area.

2- Shot boundary detection (TransNetV2)

Click the button [ShotCut], the Shot Bundary Detection module will be triggered. A folder same with main-name of the video file will be created in img folder, and the first frame of each shot will be saved in the new created folder.

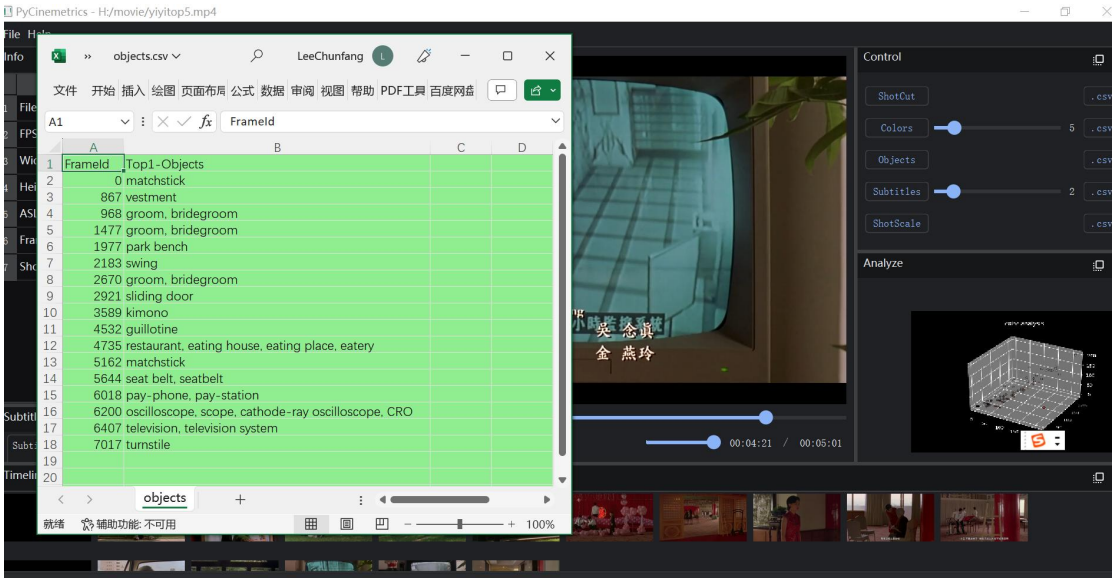
3- Color Extraction （K-Means，After 1&2）

Click the button [Colors], a K-means cluster algorithm is called to extract colors(default 5 kinds of colors) from each shot-frame. Colors data will be stored in a .csv file.



4- Object Detection (VGG19，After 1&2)

Click the button [Objects], a VGG19 algorithm is called to extract objects(Top1) from each shot-frame. Objects data will be stored in a .csv file.



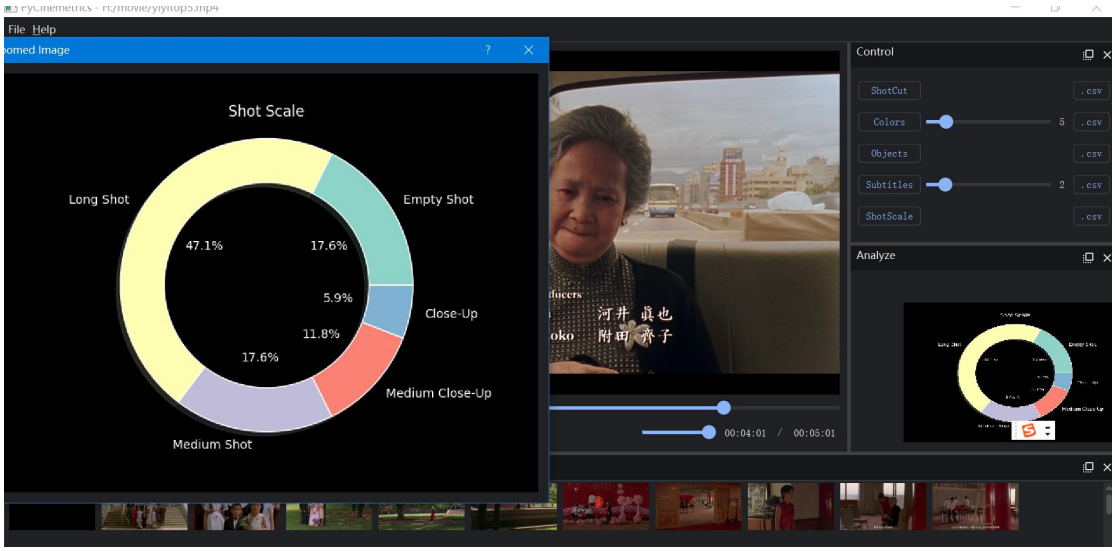
	A	B
1	FrameId	Top1-Objects
2	0	matchstick
3	867	vestment
4	968	groom, bridegroom
5	1477	groom, bridegroom
6	1977	park bench
7	2183	swing
8	2670	groom, bridegroom
9	2921	sliding door
10	3589	kimono
11	4532	guillotine
12	4735	restaurant, eating house, eating place, eatery
13	5162	matchstick
14	5644	seat belt, seatbelt
15	6018	pay-phone, pay-station
16	6200	oscilloscope, scope, cathode-ray oscilloscope, CRO
17	6407	television, television system
18	7017	turnstile

5- Subtitle Detection（EasyOCR，After 1&2)

Click the button [Subtitles], a EasyOcr algorithm is called to extract subtitles(default interval 48 frames) from each shot-frame. Subtitles data will be stored in a .csv file and .srt file.

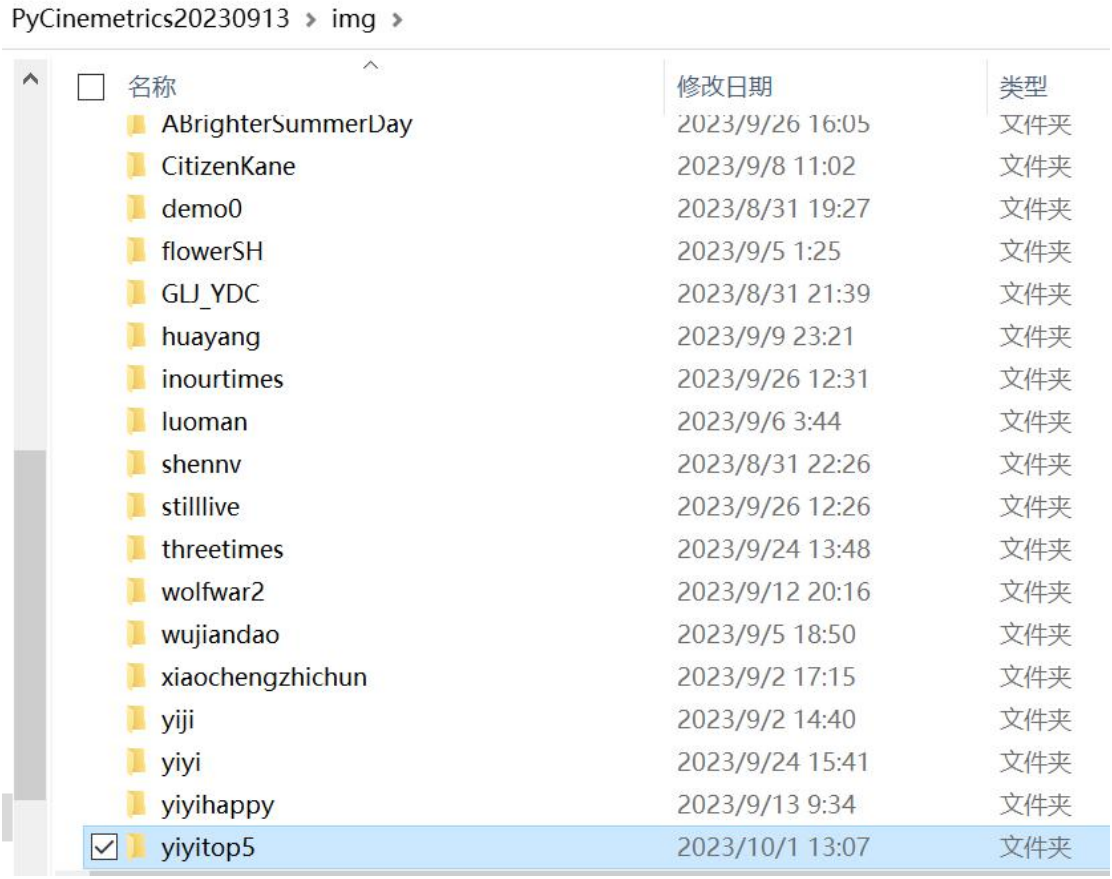
6- Shot Scale Determination（OpenPose，After1）

Click the button [ShotScale], a OpenPose algorithm is called to extract pose keypoints from each shot-frame. ShotScale data will be stored in a .csv file.



7- Output of PyCinemetrics .csv .srt .png

When a film is analyzed with PyCinemetrics, a folder and a group of files such as .png, .csv, and .srt has been created.



Run from source code.
1-python 3.8
2-pip install
OpenCV-Python, Numpy, Matplotlib, Pillow,
Wordcloud, Jieba, VGG19, EasyOcr(PyTorch), TransNetV2(TensorFlow),
OpenPose, and PySide2.
3-run main.py

Thanks for your attention and suggestion.
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