Please read this introduction before testing my code.

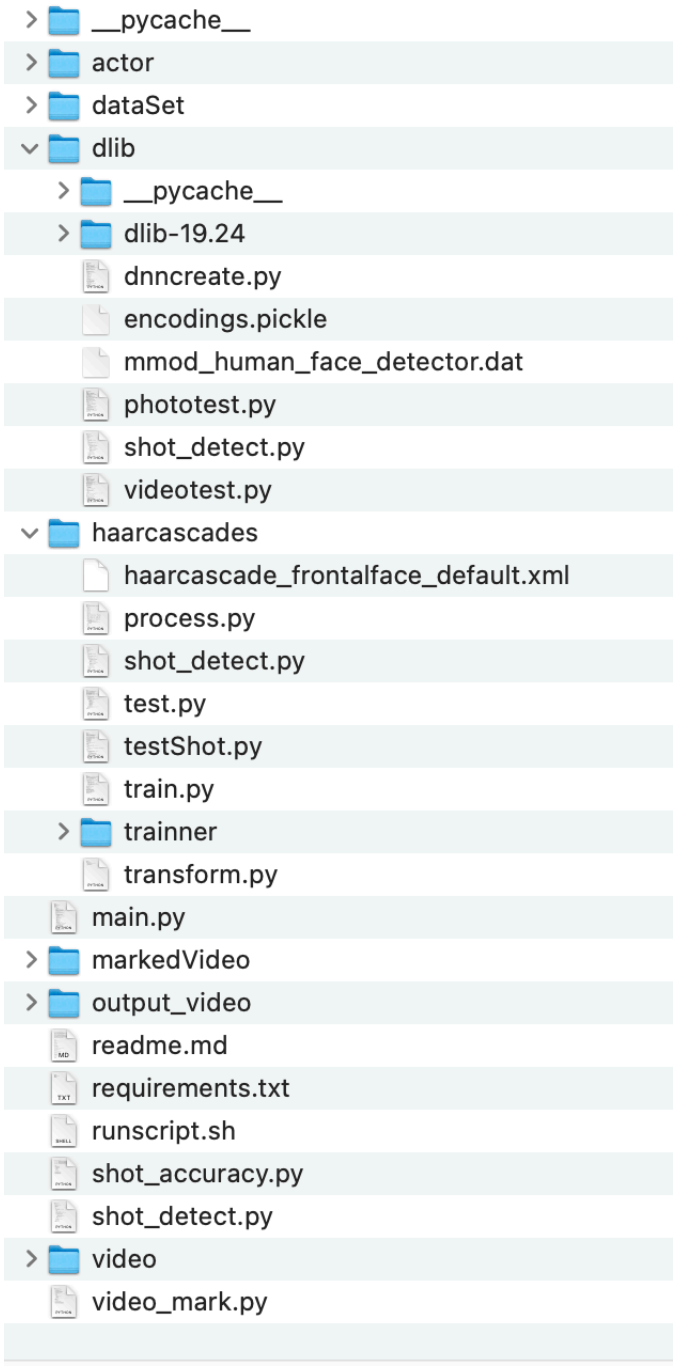
Because there is a limit of 10 MB each file submitted on Markus, the code is untidy and missing which may lead to the code not running. I hope you can download the code from my github.

Here is my github link: **https://github.com/Chen-0117/Image-Understanding**. Since the commit date will be recorded, there is no problem about late submission. Thanks in advance.

There are three files I am unable to submit on Markus:

> - I cannot submit "actor" folder which is my training dataset. It won't make any difference to the final > result, but you can not run "haarcascades/train.py" and "dlib/dnncreate.py".
> - I cannot submit "dlib-19.24" which is helpful for you to install dlib. The normal way for dlib install is "pip install dlib". However, if it doesn't work, you can try “python setup.py install” if you cd into the "dlib-19.24" folder.
> - I cannot submit "trainner" folder which contains the trainning file for Haar Cascade Classifiler. I have submitted a zip file of it. Please unzip it before running the code.

The elegant display of the file should be like below:



pycache

> Environment file

actor

> A folder contains all the original training data

dataSet

> Training data set

dlib

> Dlib Classifier
>
> > **pycache**

Environment

dlib-19.24

dlib installation folder

dnncreate.py

A function to create training data set for dlib model

encodings.pickle

Trained data

mmod_human_face_detector.dat

phototest.py

A function to test faces in photo

shot_detect.py

A function to detect shot in videos

videotest.py

A function to test faces from video shots and name them, write output to output video files

haarcascades

Haar Cascasde Classifier

haarcascade_frontalface_default.xml

downloaded file for Haar Cascasde Classifier to detect faces

process.py

A funciton to create trainning set

shot_detect.py

A function to detect shot in videos

test.py

A function to directly test faces and name them from video

testShot.py

A funciton to test faces and name them from video shots, and add back to video

train.py

A function to train LPH, Eigen, Fisher detector

trainner

A folder contain all the trained ".xml" files

> > **transform.py**
>
> > A funciton to transform the filename into tidy names

main.py

> An oop way to give a clean and tidy display of all the code.

markedVideo

> A folder contains video that are marked "shot #"

output_video

> A folder contains the result. (Video where inside all actor faces are detected and named)

readme.md

> A markdown file for instruction on the code

requirenment.txt

> Contains the environment you need

runscript.sh

> A bash script to run the requirement.txt

shot_accuracy.py

> A function to test the accuracy of shot_detect

shot_detect.py

> A function to detect different shot in the video

video

> A folder contains the three trailers we are going to test.

video_mark.py

> A function to mark the video(add "shot #" in the video)

How to run the code

- **./runscript.sh** (or **chmod +x ./runscript.sh** if that doesn't work)
- Run dlib model

> cd into dlib file path

> python videotest.py --encodings encodings.pickle --video "videoname" --output "output video name"

> e.g. **python videotest.py --encodings encodings.pickle --video "../video/Movie_3.mp4" --output "../output_video/Movie3_output.avi"**

- Run Haar Cascade Model

> cd into haarcascades file path
>
> python testShot.py