Readme

Running environment:

- Python3
- TensorFlow
- Keras
- OpenCV
- h5py
- imageio
- matplotlib
- moviepy
- scikit-learn
- scipy

File statement:

- ***generate_model.py*** : To generate our FCN model, and store the parameters in ***FCN_model.h5***. This python script relies on two training data file ***FCN_labels.p*** and ***FCN_train.p***
- ***draw.py*** : to draw blue marks on input video.
- ***FCN_model.h5*** : The model generate by running generate_model.py
- ***FCN_train.p*** : Training images
- ***FCN_labels.p*** : Training images' ground truth labels.

How to run:

1. First make sure you have installed all the required python libs.
2. CD into the project code folder.
3. Run ***generate_model.py*** to generate the model. Each epoch needs about 15 minutes on a MacBook Pro 2016, so it takes a long time. If you do not want to wait, we already provide the FCN_model.h5 in the folder. We used AWS EC2 to train our model, which has 16 CPUs and 32G RAM.
4. Modify the name of any video you want to test into ***input_video.mp4***
5. Run ***draw.py***, then you will get a output video in the same folder.