Journal Report 4
9/23/19-9/29/19
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Daily Log

Monday September 23

Because of the issues I was having with the video writer, I decided to just do a straight copy of the original video. Wasn't writing a playable video.

Tuesday September 24

Needed to make sure I was processing the correct frames so I wanted to output the frames. Found that colab had recently added it's own version of imshow. I was able to see the frames in the output. The video still wasn't playable.

Thursday September 26

Helped my partner by outlining some of the move sets for the martial art moves. After changing the fourcc argument in the videowriter, was able to write the video. Also added a timestamp to my videos.

Timeline

Date	Goal	Met
9/16	Film hand waving video and begin video analysis	Yes, the hand waving video is filmed and may need to refilm as my hand goes slightly out of frame but will require further testing.
9/23	Track Hand Movement and finish video analysis	No, the colab and CV interface was more complicated than I initially thought.
9/30	Track Hand Movement and finish video analysis	No, Almost done. Will have the bounding box by Monday or Tuesday
10/7	Begin to place skeletal model on human	
10/14	Extract position data from the skeletal model	

Reflection

The copy of the video proved to be a helpful exercise because I learned how to better use the video writer which will be essential in analysis later on. This is the line for the video writer's initialization:

```
writer = cv2.VideoWriter(VIDEO_STREAM_OUT,
                         cv2.VideoWriter_fourcc('M','J','P','G'),
                         30,
                         (frame_width,frame_height))
```

VIDEO_STREAM_OUT is the file path for the output video and it marked with a timestamp. Here is an example on September 26, 2019 at 9:40: output_motion_2019-09-26_13:40:08.843632.mp4. I assume the discrepancy in timestamps is due to the location of google's server. The fourcc is the settings for the video writer. The frames per second is 30 and I will update that value with a variable that comes from the original video.

As I mentioned in class, I will be tracking my hand so I will be able to better place the skeletal model in the following weeks. My partner will be using my skeletal model for a k-Nearest-Neighbors algorithm (kNN) to classify the moves. Here is an example breakdown of poses for the move, Front Slap Kick:

- Right arm straight ahead, 90 degrees with body. Left arm back and raised about 45 degrees. Feet together.
- Bring together above head
- Kick up, toes pointed. Return arms to original position. Right hand hits foot as coming back down