Journal Report 2

9/9/19-9/13/19

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Daily Log

Monday September 9

Edited all chess footage clips except one. This involved cutting out footage where the chessboard wasn't in the shot and cropping or blocking any digital representations of chessboards in the frame.

Tuesday September 10

Finished editing the last chess footage clip, which was longer than the other clips put together (90 minutes to 60 minutes). Attempted uploading footage to Google Cloud before period ended—didn't succeed and ended up doing so at home. Talked to Dr. Gabor and discovered the SysLab's many tripods.

Thursday September 12

Added a command-line flag to record.py to allow user control over whether or not a video would be saved. Discovered I was using OpenCV 3.4.1 and tried (unsuccessfully) to install 4.1.1 with conda-forge. Found that the latency on the phone-to-laptop link was much higher than last week, but couldn't determine the cause of this latency. The recordings I gathered from my phone were also playing back at around double speed—likely because of the latency issue.

Timeline

Date	Goal	Met
Aug 26	Link phone video feed to laptop; gather stills and footage of real chessboard	Stills and video link done; no footage yet (no tripod)
Sept 9	Clean raw chess footage from online; set up router to avoid using phone hotspot	Chess footage downloaded, cut, and uploaded; no router yet
Sept 16	Figure out why phone-to-laptop video feed has latency; create a script to convert digital board states to moves in PGN notation	Found solution (see reflection); not started
Sept 23	Gather video of chess match with iPCamera, router, and tripod; research image augmentation for CNN	Not started
Sept 30	Construct dataset for CNN with working board-slicing script (from partner)	Not started; partner has "flimsy" board detection algorithm implemented

Reflection

This week was more frustrating than last week for me. I trimmed around 2.5 hours of footage down, which was boring but necessary. And when I went back to coding to add a command-line arg to record.py, I found the video feed had much more latency than it did last week when I first wrote it. Not sure what changed. (Update: checking the same system on 9/15 and it seems to be fine. I think my cell service was just weaker that day than in the week prior.)

Other than that, my goals stated are similar to last week's journal, with the exception of the additional goal to solve the latency issue. (Solved? I'll check it again in class to see if my service is just poor in that room.) Hopefully I'll be able to finish the digital board states to PGN notation script quickly, since my next goal is live recording, which is fun, and it appears there are plenty of tripods I can borrow for the task. I'm toying with the idea of using bitboards, but I think that will be overkill since we won't do any computation on the board states, just translating them to human-readable moves, so a more efficient way of storing board data won't save much processing time.

The other goals remain the same. If my partner's script is unable to splice chessboards into squares robustly I might have to do some manual image cropping to get training data for the CNN, which would then replace my current Sept 30 goal.