Journal Report 17
2/10/20-2/14/20
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Period 1, White

Daily Log

Monday February 10

Fixed prev-state bug for piece-detection by assuming white player will be on left of frame.

Tuesday February 11

Modified piece-labelling script to use partner's board location script. Fixed some errors in piece-labelling script with import statements.

Thursday February 13

Began labelling pieces.

Saturday February 15

Began modifying square-segmentation in piece detection to segment squares along the pose-estimated normal to the board, rather than a normal to the image.

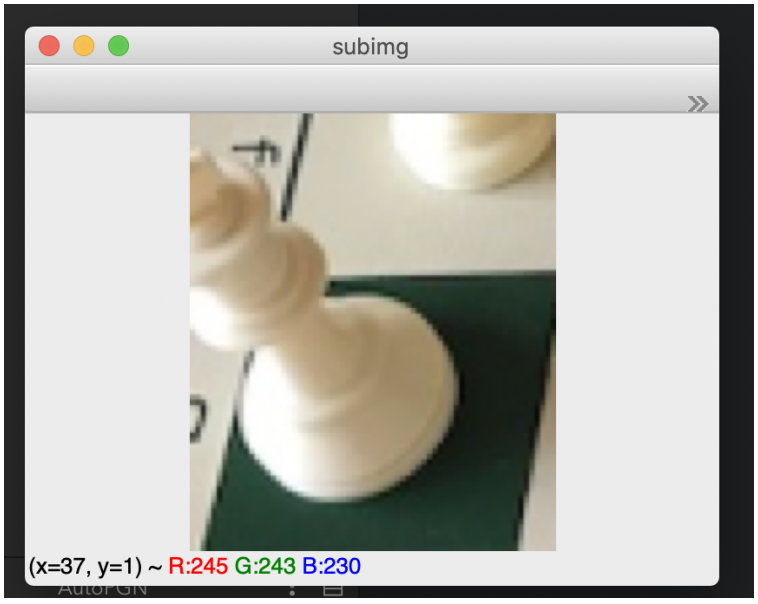
Timeline

Date	Goal	Met
Jan 27	Separate input mechanism from rest of Winter Goal script, integrate new model/square-checking into Winter Goal script, continue chess-logic implementation	Done
Feb 3	Adjust piece height thresholds, potentially retrain model	Not started
Feb 10	Fix chess-logic implementation, label new images, then return to Feb 3rd goal	Done, not returning
Feb 17	Finish slanted square segmentation, return to piece labelling	Not started
Feb 24	Finish piece labelling, train new model for States (March 6th)	Not started

Reflection

This week, I fixed last week's incorrect addition of chess logic to the piece detection system. I found out the board was oriented differently from the chess logic and CNN sides, which I solved by assuming an orientation of white on the left of the frame.

Then I began labelling pieces from the 400 chessboard images I took the week prior. However, I ran into many cases like this, where the top of a piece is slightly cut off:



I realized the problem was that though I took the projected piece height into account when cropping the squares, I was still cropping rectangles normal to the corners of the image, even when the board itself wasn't normal to the image. Instead, I should be cropping parallelograms that are slanted to match the normal of the *pieces* on the board.

So I began implementing that over the weekend. I'm stuck on how exactly I project the parallelogram back to a rectangle for inputs to the CNN, but I did something similar for finding the orthophoto of the board earlier this year. Hopefully I can look at that code again this week and fix it quickly.