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Period 5

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I didn’t have any observable results this week, as I did more conceptual work and setting up frameworks for future work. I thoroughly read through the paper that I’ve been referencing for board detection, and I now understand their algorithm. After detecting straight lines in the image, it looks at each intersection and figures out if that point is an actual lattice point on the chessboard. It does this by taking a 21x21 pixel slice of the image centered at the intersection, and runs that through a simple CNN that indicates whether or not the point is a lattice point. This algorithm will be essential to refining board detection so it actually lines up with lattice points on the board.

To begin this process, I set up a Jupyter notebook that will be used to train and test the CNN. I’m planning on using Tensorflow, because I’m very familiar with it and it allows for a wide range of control when constructing and training a neural network. I’ve already written the code that defines the architecture of the CNN, so the next step is to collect data and train the network. I’ve begun writing the script to easily collect lattice point data that is based on my old script that Kevin Fu used to collect piece identification data. I plan on having trained the neural network on at least 100 images by the end of next week.