Nathan Jaggers

Dr. Zhang

EE 428 - Computer Vision

February 2nd, 2023

Peer Review of Group 5: Chess Piece Recognition

Quality, Significance, presentation, limitations

Chess is a popular board game that has been played for centuries. Recently it seems that chess has risen in popularity and gained an influx of new players who either play physically or virtually. If I ask any of my friends, if and where they play chess it is probably a "yes" and on chess.com. I think that with this rise in popularity along with the rise of computer vision technology, this Chess Piece Recognition project is a both relevant and significant project.

The scope of the overall project appears daunting but that is because it is related to a senior project and the reduced scale project proposed to be completed by the end of the quarter seems more viable. The project seems to be of high quality with detailed goals laid out and assumptions made clear.

The presentation was excellent! It appeared as though all group members were involved in the development and testing of possible algorithms. The background and full system overview were helpful is describing what this project is and what it would grow into. There were plenty of helpful visuals which aided in the explaining of the different sections in the presentation. The structure and order of the presentation was coherent and easy to follow. I never felt lost when the group was explaining their intentions and all their approaches seemed reasonable. The only problem I had during the presentation was that I couldn't hear Juan very well, so if he could speak louder or some equivalent solution, that would be great.

Considering the timeline for this project I think the assumptions to make the project simpler are very fair. This definitely will limit the capabilities of the final product but I understand how it's more important to get a simpler version working first and adding more complexity slowly after.

I would like to take a moment to agree with some of the suggestions made after the presentation in class today. I do think it could be possible to create templates for the pieces from the original image taken above the chess board for both the black and white pieces. Although there is glare in the black pieces, there would be glare in the templates too which might help increase the accuracy when trying to match the template to the piece.

Also this didn't come to mind during class and I don't remember if this group needs masks and/or segmentation for the pieces but I thought that since they are black and white, you could start out with a basic thresholding for those pieces, use morphological operators to fill in the spaces and then label each piece with bwlabel. Then after you could separate out the pieces in binary image and have masks for each piece. This could help with segmentation.