

Computer Vision (Spring 2021) Problem Set #3

Josh Adams
jadams334@gatech.edu

3: Projective Geometry

Report what warping technique you have used and comment on what led you to choosing this method.

For problem set 3 I used inverse warping. Inverse warping is where you have a pixel location in the final image, and you calculate the value of that pixel using bilinear interpolation from the pixels in the source image. The reason I chose this method is that when you use forward warping you sometime have situations where a pixel from the source image is mapped to a point in between pixels in the final image. This results in 'splatting' which is where you distribute the source pixel values to the neighbors surrounding the destination in the final image. This causes image distortion and reduces the accuracy of the image produced. Even though my images are large and of higher quality so the degradation from using forward warping would not substantial, I still chose to use inverse warping to preserve fidelity.

5: Markers in Video



ps3-5-b-4



ps3-5-b-5

5: Markers in Video (cont.)



ps3-5-b-6

6: Video in Video



https://www.youtube.com/watch?v=cHSjInARd_0

ps3-6-a-1



ps3-6-a-2

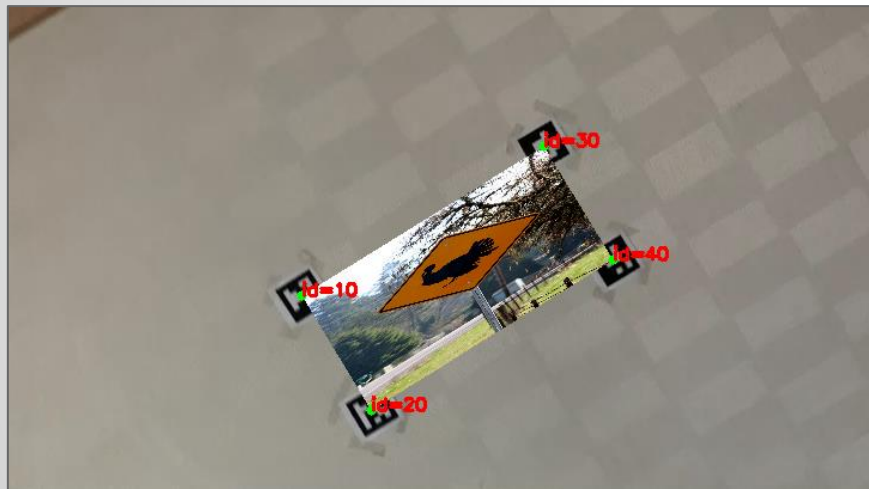
6: Video in Video (cont.)



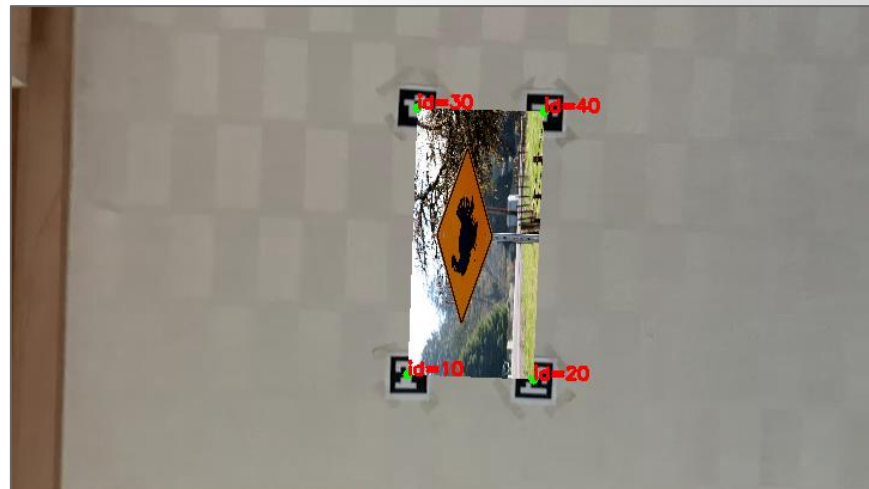
https://www.youtube.com/watch?v=cHSjlnARd_0

ps3-6-a-3

7: ArUco Marker

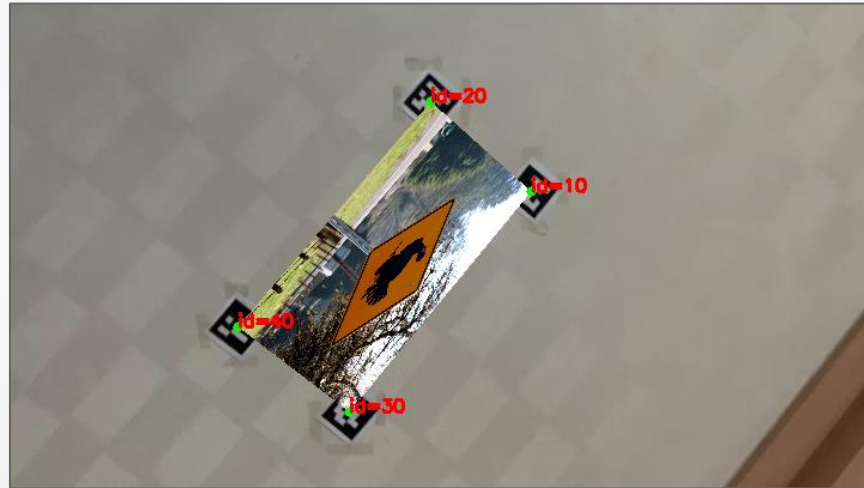


ps3-7-1



ps3-7-2

7: ArUco Marker (cont.)



ps3-7-3

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<https://smallpdf.com/compress-pdf>

Verify that all images are still visible for grading.