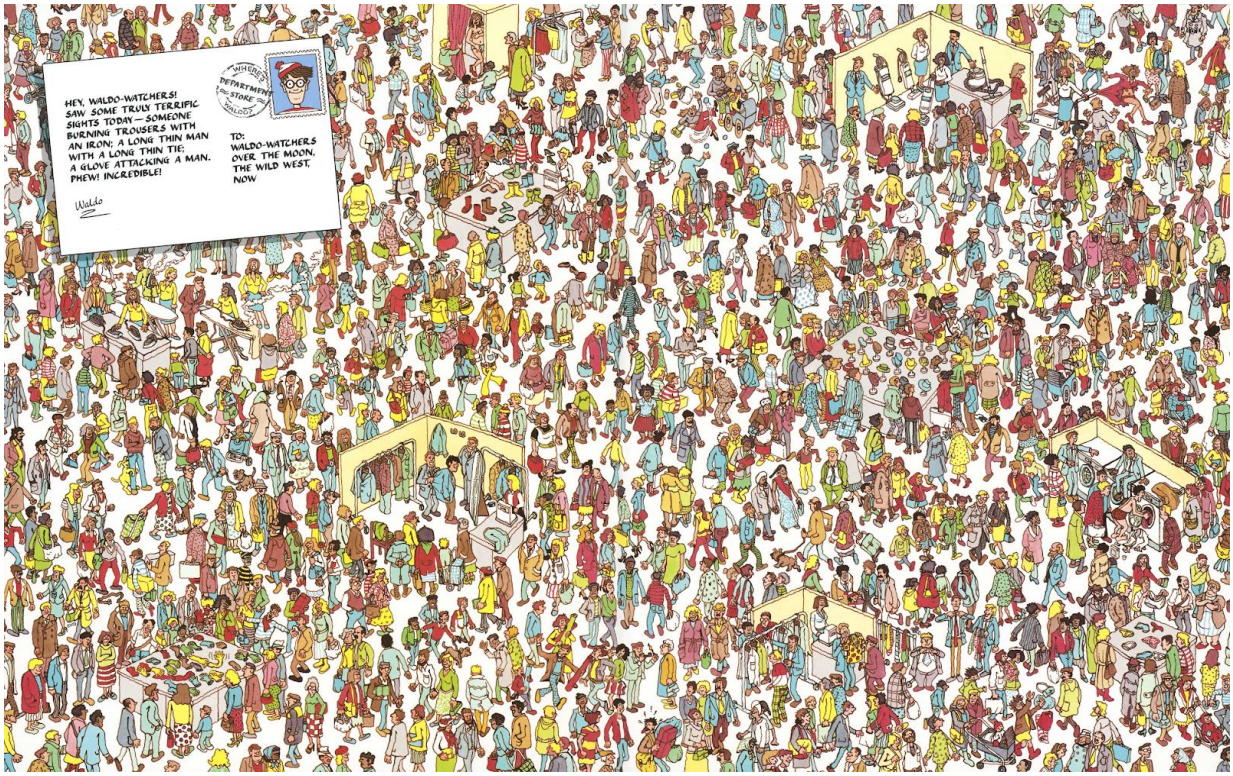
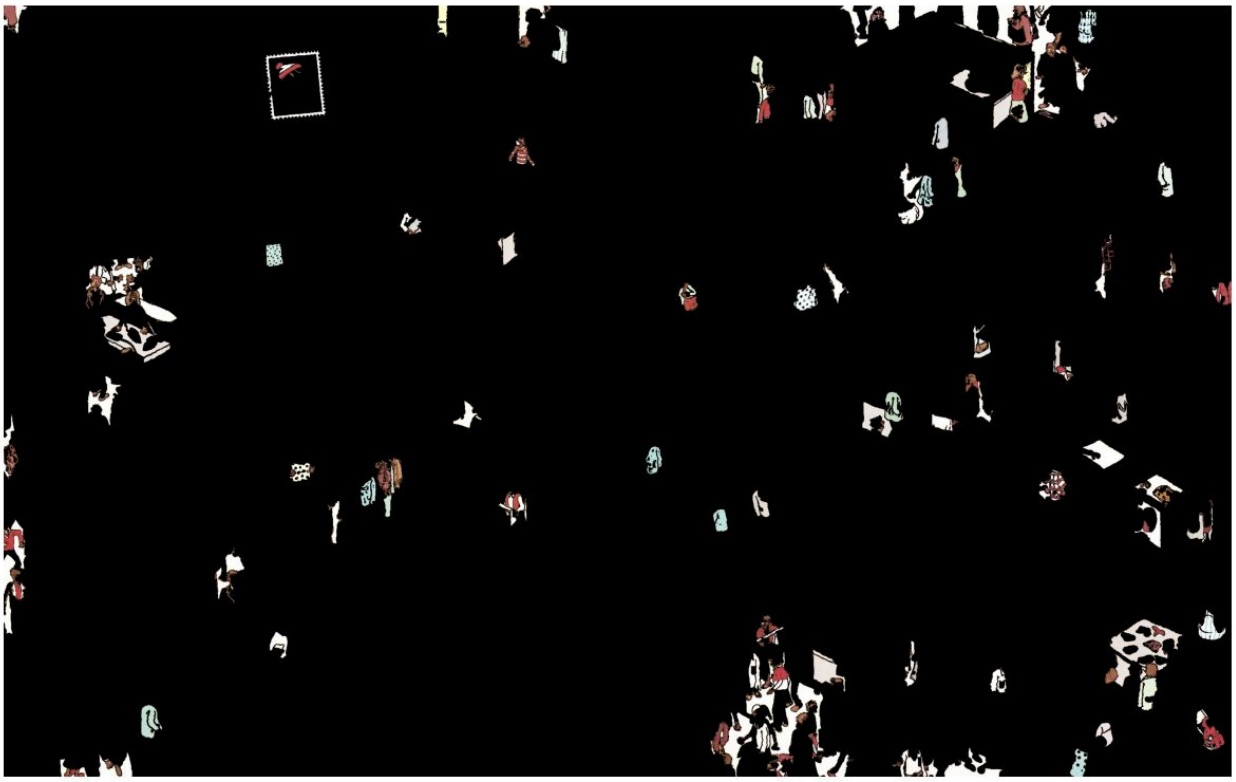
Final Project Report

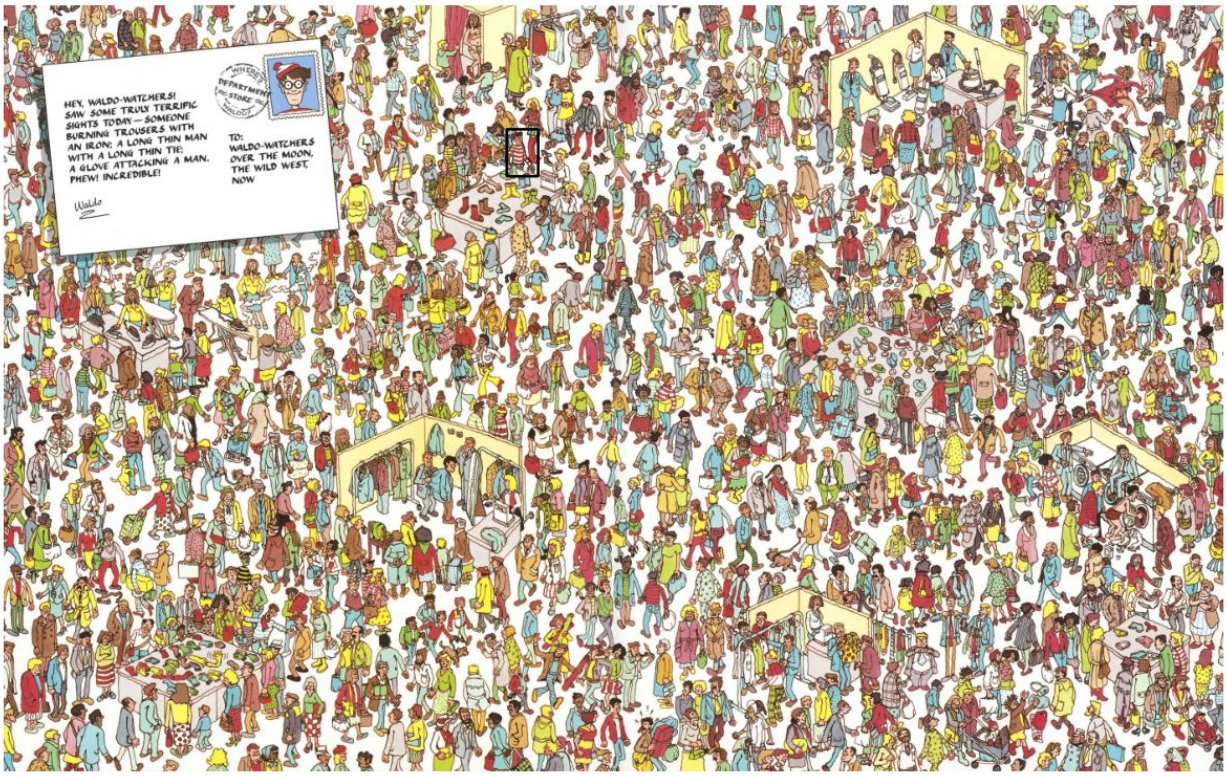
Alec Glascock & Chase White

Our final project is a Where's Waldo finder. The project is supposed to take in a picture of the game Where's Waldo and be able to find him and place a box around him. The first method we used to achieve this is color segmentation. We would get rid of all colors that were not red and white since Waldo's signature look is a red and white striped shirt and beanie. Then we would create connected components with the remaining red and white and delete components that were either too large or too small to be Waldo. Our color segmentation worked quite well and actually removed Waldo's face from the image so it only left his shirt and hat to be found, as you can see by our images below. Then we would take a template of the Waldo we are looking for and run a template match to the image to find Waldo for us. Template matching goes through each pixel of the image and returns the closest match from the template to the image. Once we had a match we would place a black box around where Waldo is in the image to make it easier to see. That is how we were able to find Waldo. Some problems we ran into were finding the right ranges of colors to segmentate. Each Where's Waldo image had slightly different shades of red and white so we had to create a unique range of colors for each puzzle we run to make the color segmentation as accurate as possible. Here is a youtube video of our code running.

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






HEY, WALDO-WATCHERS! SAW SOME TRULY TERRIFIC SIGHTS TODAY — SOMEONE BURNING TROUSERS WITH AN IRON; A LONG THIN MAN WITH A LONG THIN TIE; A GLOVE ATTACKING A MAN. PHEW! INCREDIBLE!
Waldo
TO: WALDO-WATCHERS OVER THE MOON, THE WILD WEST, NOW