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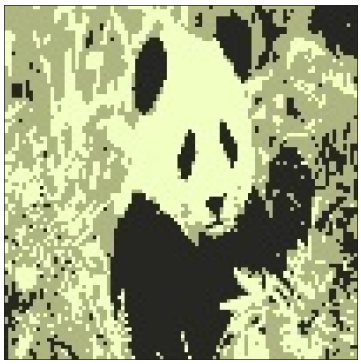
ECE 1390


K = 3, Iters = 7, R = 5


K = 5, Iters = 15, R = 15


K = 7, Iters = 30, R = 20

From these output images we can see that increasing the number of clusters makes the output image segment the different colors of the image into more groups allowing more colors and shades to be seen. We can also see that increasing the number of iterations results in a better classification of these clusters or groups because we are updating the centers of the clusters more times allowing the distance between the centers of the clusters and the points within that cluster to be minimized. Finally, we can see that increasing the number of random resets for the kmeans clustering also results in a better classification because the randomness of the kmeans algorithm could result in an inaccurate representation of our clusters due to the random initial assignment of the cluster centers. Allowing random resets eliminates this error because we are only selecting the output with the smallest ssd or the least amount of error.