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CISC 442

Final Project

Our project goal is to count the number of heads in a given image taken from an overhead angle. First, we needed to extract globs from the image that have the potential to be heads. These candidates are given to Adaboost, a machine-learning algorithm, to determine if the extracted object is actually a head.

We tried many different methods to extract candidates for our Adaboost algorithm. In our first attempt, we used an algorithm that detects circles in an image and returns their center point and radius. This failed, because not all heads are circular. People with long hair do not produce a circular shape when their picture is taken from above.

The method we settled on applied a Laplacian filter to the image to capture the gradients of the image. Then we use connected component labelling

Overall, we encountered many problems in our attempt to count heads. Unusual hair colors, hats, hoodies,