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I finished working on knn this week. Before doing the knn code, I needed to do some preprocessing. First, I have to read in the data and process it. I have two lists that keep track of the information. The first list xlist stores feature vectors and the second list ylist stores labels. The data is images from the capture script that captures the region found by face detection. I go through each folder in the folder that contains all folders of gesture images. I do the standard procedure of detecting the face, finding key points, finding feature vector, and pca for every single image in date. I append the feature vector in the xlist and append the number that corresponds to gesture folder into ylist. Finally I use scikit learn knn implementation to fit the data. The program starts to use webcam to capture face and generate feature vector and get a prediction from knn model. The knn works and it’s classifying at a decent speed. I will try to figure out why. I suspect it might be key point detection not working accurately. However, it’s not working accurately at all. In the future, to improve reading speed, if I were to stick with the keypoint based feature vector, I can also save feature vector to save reading time. One minor issue I have with the program is that it drains battery pretty fast. The calculation is quite intensive for classification, pca, and knn. It’s not a huge issue if laptop is plugged though.