CMPSC 181 Prog1 Written Report

My code for prog1 is written in Python and can be found here. The open-source libraries needed to run this program are numpy, cv2, os, sys, and matplotlib. Two things should be noted about the program that can change the panoramic image output: 1. Altering the ratio in line 36 from 0.9 to some other value between 0 and 1 changes the tolerance of image matching—higher being more lenient towards less confidence 2. Altering the value multiplying the width variable in line 78 from 1.1 to some other value will change the width of the panoramic image output as well as the accuracy of the image matching. I ran into trouble finding the optimal values for each; it all depends on the number of image slices being concatenated. Additionally, removing the comment on line 106 before running the program will display plots rendering how the image matching is occurring. This is great for visualization of the program, although it makes it run slower. An example of what this function looks like is as follows.

Finally, to run the program type python prog1.py <directory_name> <output_filename> into the command prompt. Note: both must be valid paths; test data is included in the GitHub repository.