Gebze Technical University
Department of Computer Engineering
BIL 565 / BIL 463
(Introduction to) Computer Vision
Spring 2020
HW2
May 18th 2020

In this homework, you will implement a hybrid stereo correspondence algorithm that uses both feature based and correlation based algorithms.

For the feature based algorithm, you will use ORB key points and descriptors. You may use OpenCV ORB point detector and descriptor.
For the correlation based algorithms, you will use the block based matcher of the OpenCV library.

Firsts get the data from http://vision.middlebury.edu/stereo/data/scenes2001/
Download 6 image pairs of Sawtooth, Venus, Bull, Poster, Barn 1, Barn 2 images. Use camera positions where the disparity images are available.

Here are the very general steps of the main algorithm

1- Run the ORB point detector on both images and get the descriptors for each keypoint.
2- Find the feature correspondences between the images. This will produce very sparse correspondence set.
3- Run the block based matcher of OpenCV to fill the unassigned disparity values between the features.

Compare your results with the disparity results given at the Middlebury page.

Prepare a report that gives step by step detailed algorithm for your system and show your intermediate results.

You will compile and demo your system at project lab