Gebze Technical University
Department of Computer Engineering
BIL 565 / BIL 463
(Introduction to) Computer Vision
Spring 2022
HW3
May 31st 2022

In this homework, you will implement stereo correspondence algorithm that uses feature based methods. You will select the features that you will use for the corresponcence, which might include

- Edge features
- Corner features
- Image blocks
- Keypoints (ORB, SURF, etc.)
- Any other methods

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.

Your submission will include

1. A report that describes your features selected and your feature matching algorithm. You should design at least 3 different feature sets and matching methods.
2. Run the openCV matching methods to get correspondences
3. Compare your results of your 3 methods plus the OpenCv results with the disparity results given at the Middlebury page. The comparison should be done numerically.
4. Your report gives step by step detailed algorithm for your system and show your intermediate results. You should also discuss the results in terms of their performance and the reasons for failures.

You may use any OpenCV feature detection techniques.