Gebze Technical University
Department of Computer Engineering
BIL 565 / BIL 463
(Introduction to) Computer Vision
Spring 2024
HW Optional (100pts)
Jun 5th 2024

In this homework, you will implement stereo correspondence algorithm between oversegmented stereo images.

- First learn about OpenCV oversegmentation methods by asking chatGPT "What are some opencv image oversegmentation algorithms?"
- Then choose one or two methods to oversegment your stereo images (Sawtooth, Venus, Bull, Poster, Barn 1, Barn 2) that you get from http://vision.middlebury.edu/stereo/data/scenes2001/
- Design a stereo correspondence algorithm that matches two image segments on an epipolar line (images are already rectified)
- Implement and run your algorithm on the 6 image pairs that you have doewloaded.

Your submission will include

1. A report that describes your oversegmentation method, your correspondence algorithm
2. Run the openCV matching methods to get correspondences
3. Compare your results of your method 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.