3-D Computer Vision
Homework 2

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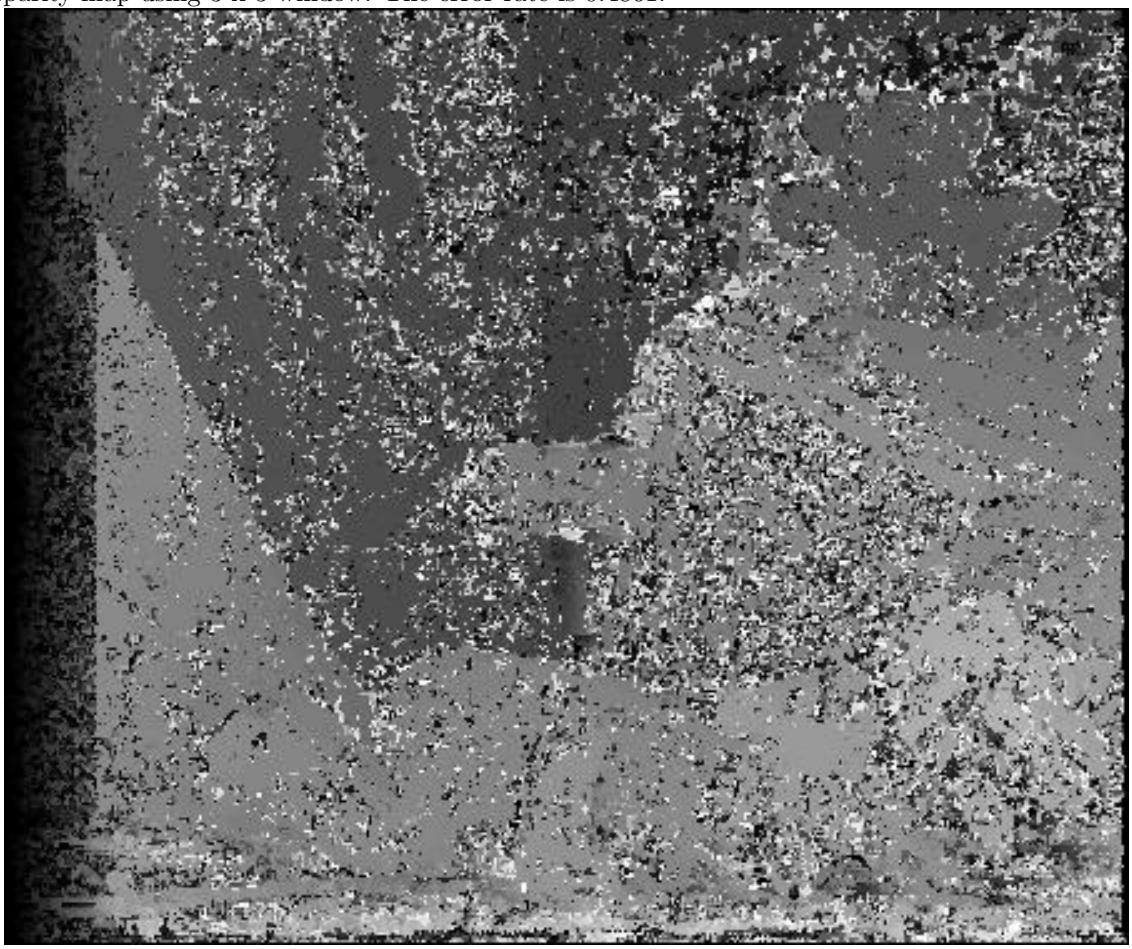
Problem 1

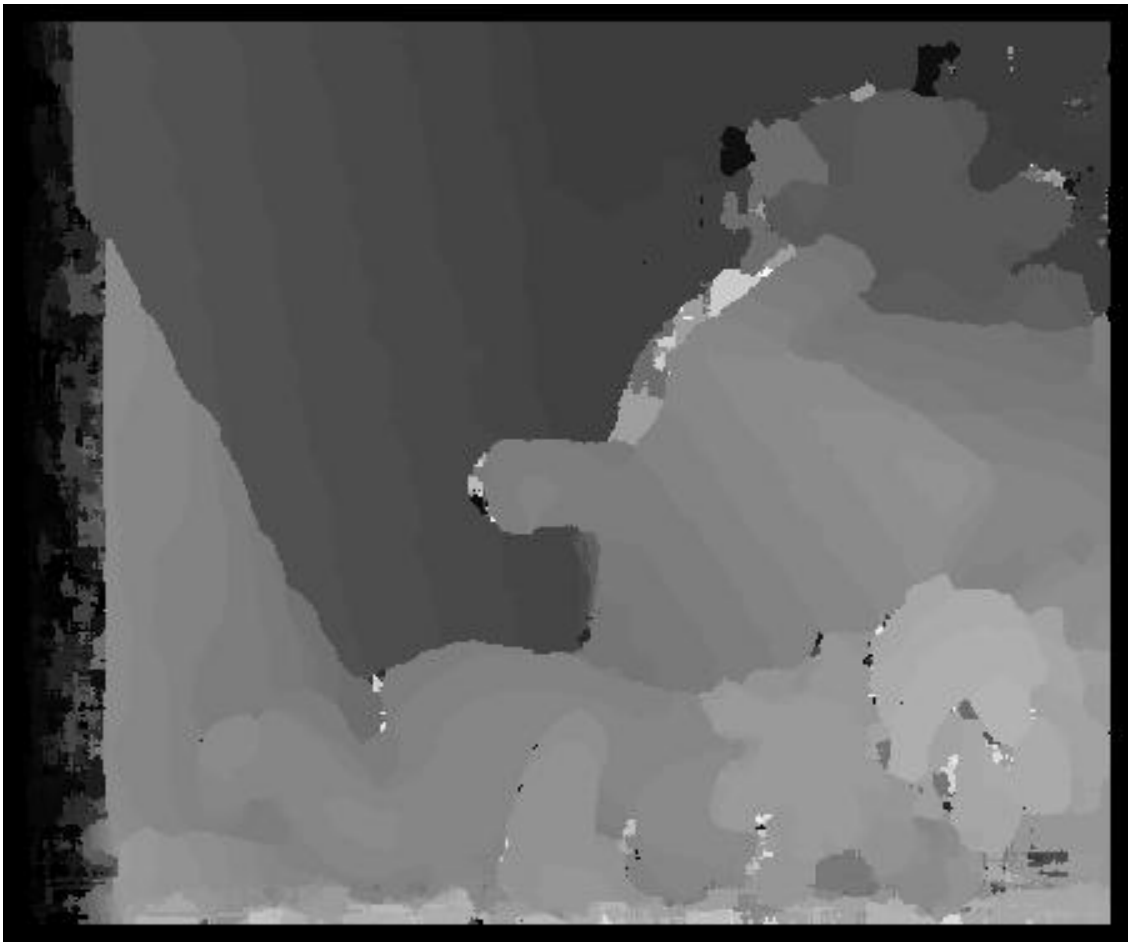
3 x 3 Window

Disparity map using 3 x 3 window. The error rate is 0.4861.



15 x 15 Window

Disparity map using 15 x 15 window. The error rate is 0.2612.



Problem 2

A new disparity map is generated under the criterion that only pixels with PRKN values higher than median (or say the top 50 percent pixels) are kept from the original disparity map that is created using 3 x 3 aggregation cost window. As a result, a total of 82991 pixels out of 375X450 are kept, and the error rate compared to the ground truth is 0.4530.

The error rate is not improved significantly against the original error rate, which is 0.4861. This observation could be explained as follows. The disparities in the original disparity map (3 x 3 window) that well approximate those in the ground-truth disparity map may have global minimum SADs at correct depths, but they do not have high PRKNs, or say they also have local minimum SADs that are very close to the global minimum values.