

**CSE473/573 SUMMER 2018**  
**PROGRAMMING ASSIGNMENT #2**

**Submitted by**  
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**PROBLEM (1)      (Stereo Vision)**

**1.1 Disparity estimation using block matching**

When the block size is  $3 \times 3$ :

Left image:



Right Image:

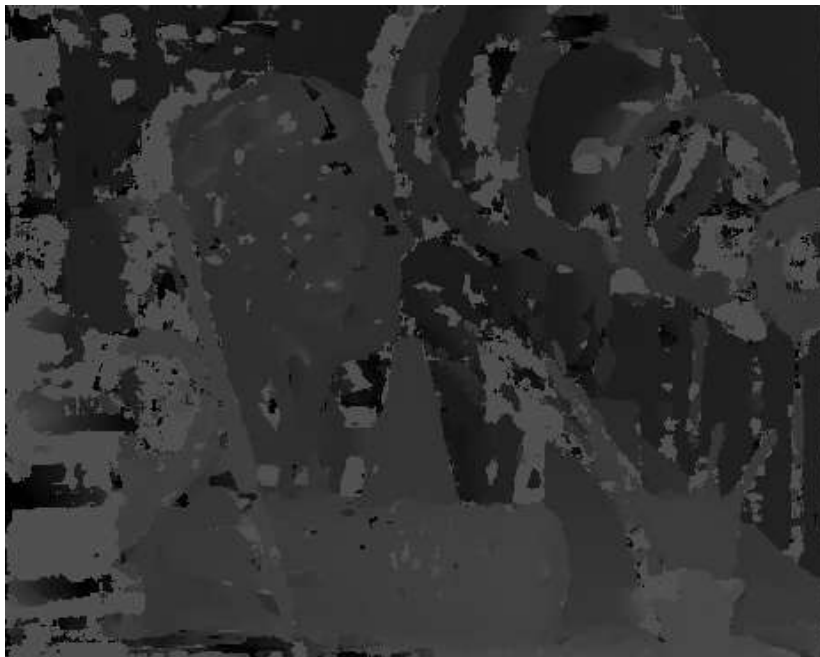


The calculated MSE value:

```
MSE for View1(3x3): 674.634066896  
MSE for View5(3x3): 706.785371549
```

When the block size is 9x9:

Left image:



Right Image:



The calculated MSE value:

```
MSE for View1(9x9): 408.728101103  
MSE for View5(9x9): 428.243546787
```

## 1.2 Consistency check

When the block size is 3x3:

Left Image:



Right Image:

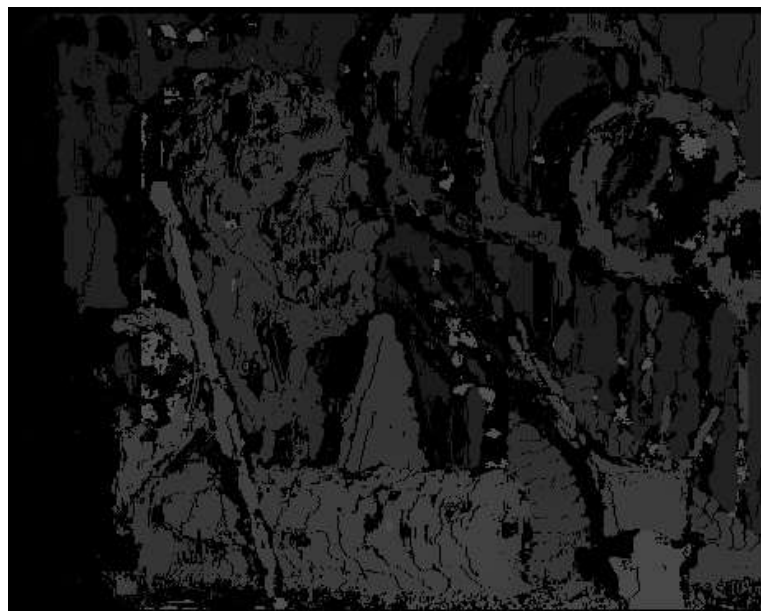


The calculated MSE value:

```
MSE for left image after Consistency Check(3x3):  
83.284291635  
MSE for right image after Consistency  
Check(3x3): 21.4628626467
```

When the block size is 9x9:

Left Image:



Right Image:



The calculated MSE value:

```
MSE of Left Image after Consistency check(9x9):  
13.6735508727  
MSE of Right Image after Consistency check(9x9):  
9.6133967661
```

### **1.3 Disparity estimation using dynamic programming**

The disparity map for the left image (image1) is:





The disparity map for the right image (image5) is:



## 1.4 View Synthesis

Synthesized view with holes marked as zero:



### PROBLEM (2) (Image Segmentation)

The segmented image is obtained for  $h=60$  and the iteration value changed for each image.

Iterations = 10



Iterations = 20





Iterations = 30

