State University of New York at Buffalo
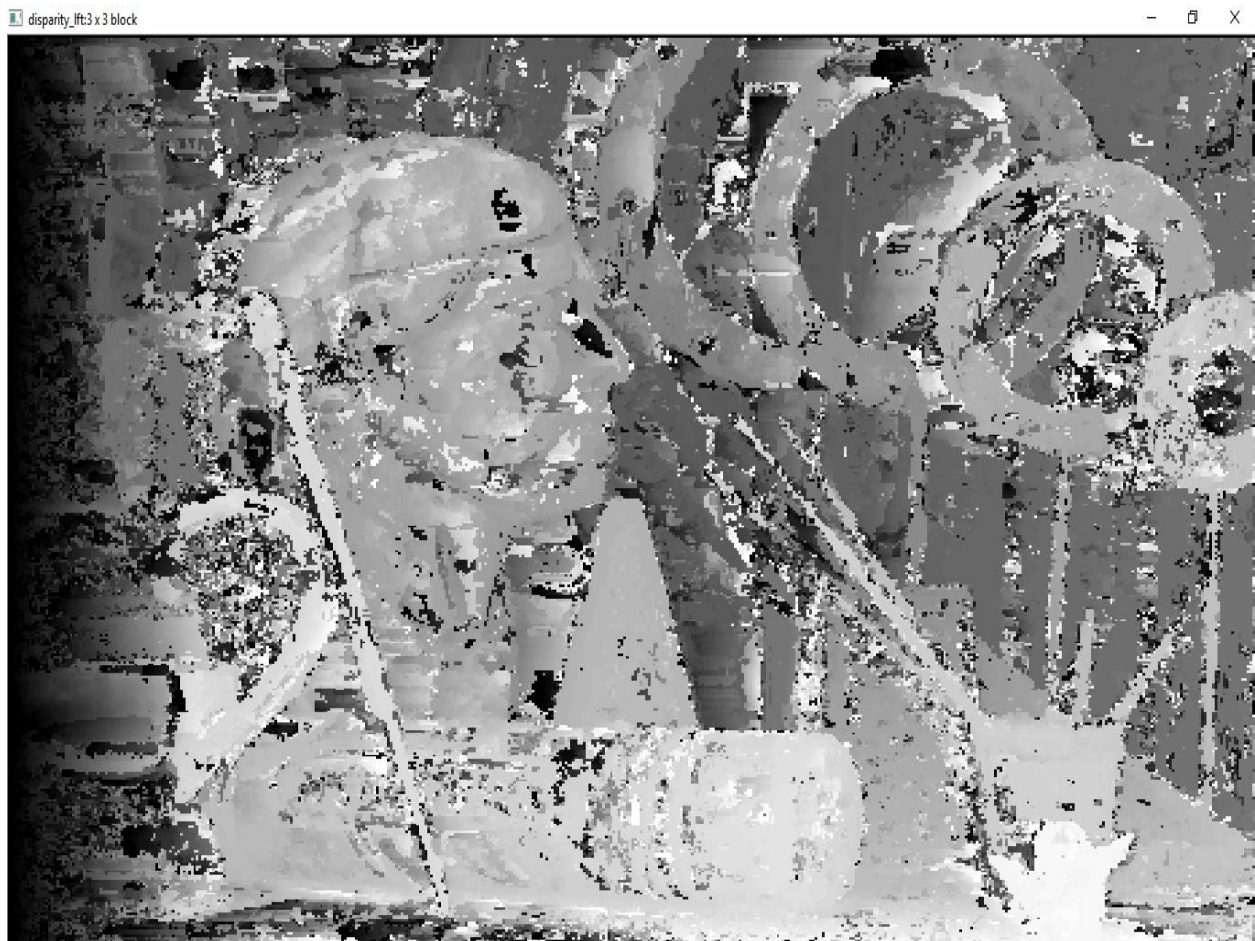## CSE 473/573: Summer 2016
Programming Assignment #2

-Prithvi Gollu Indrakumar

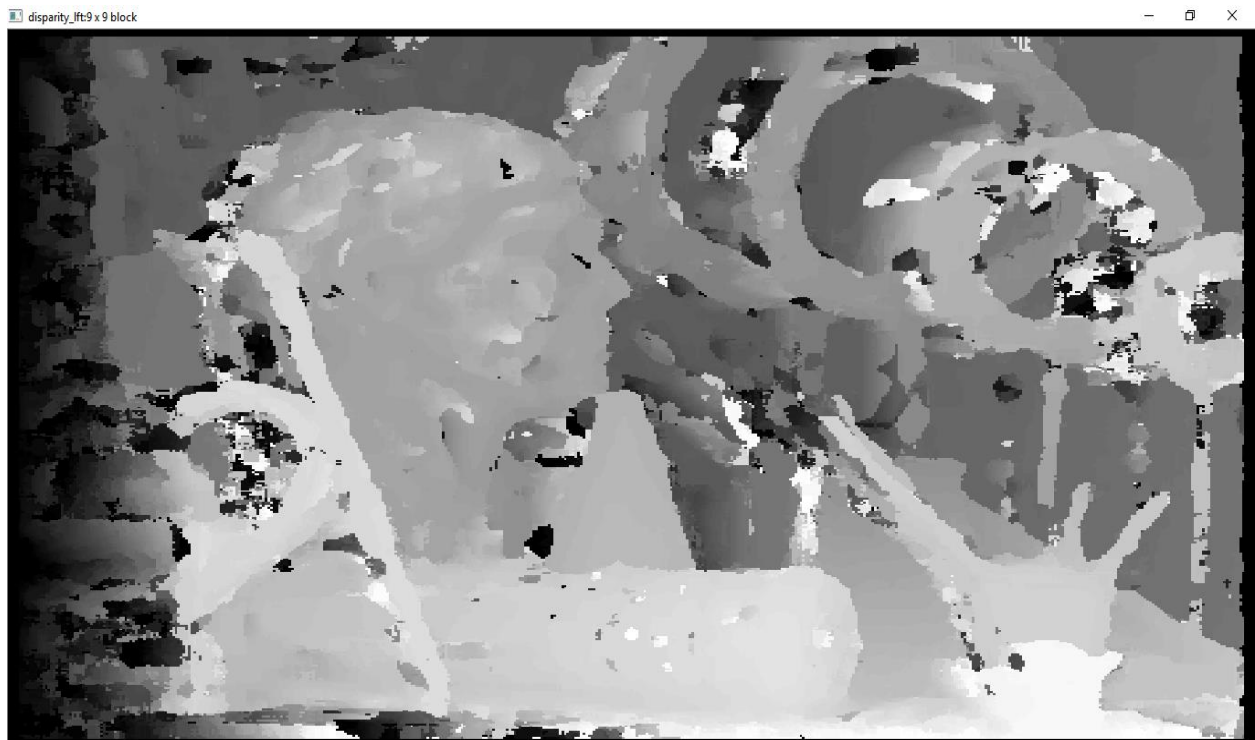UB #: 50169089

Problem1: Block Matching

Disparity Map:

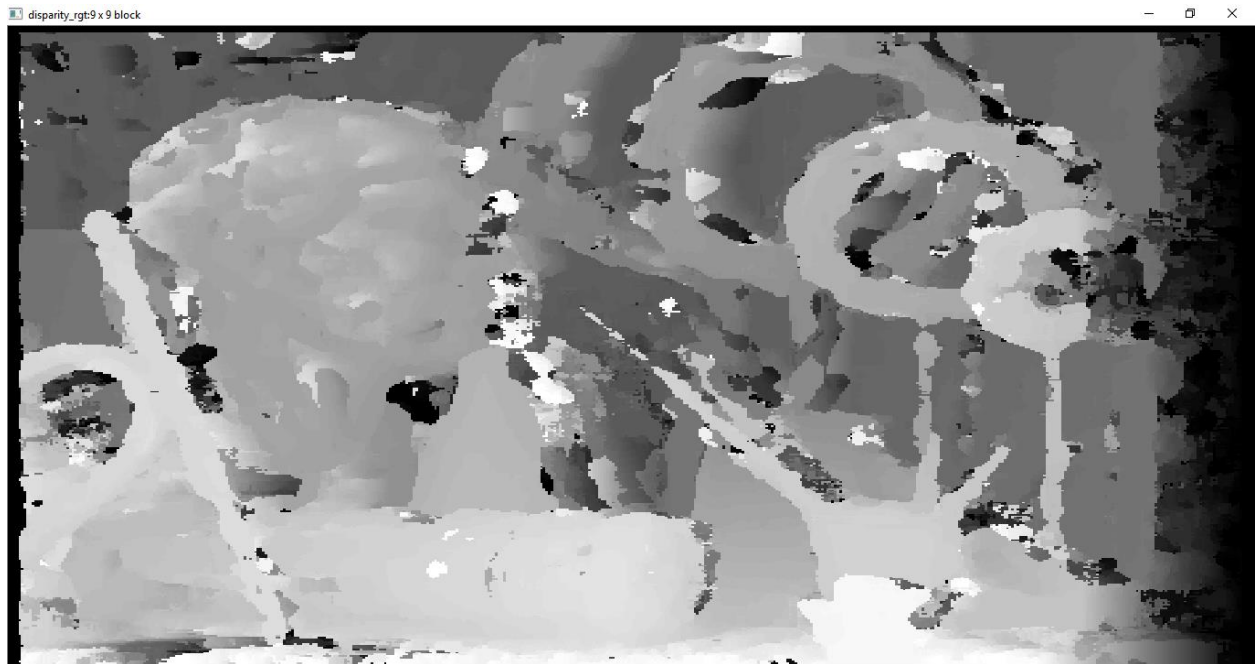*Left Disparity Map 3x3 Block*

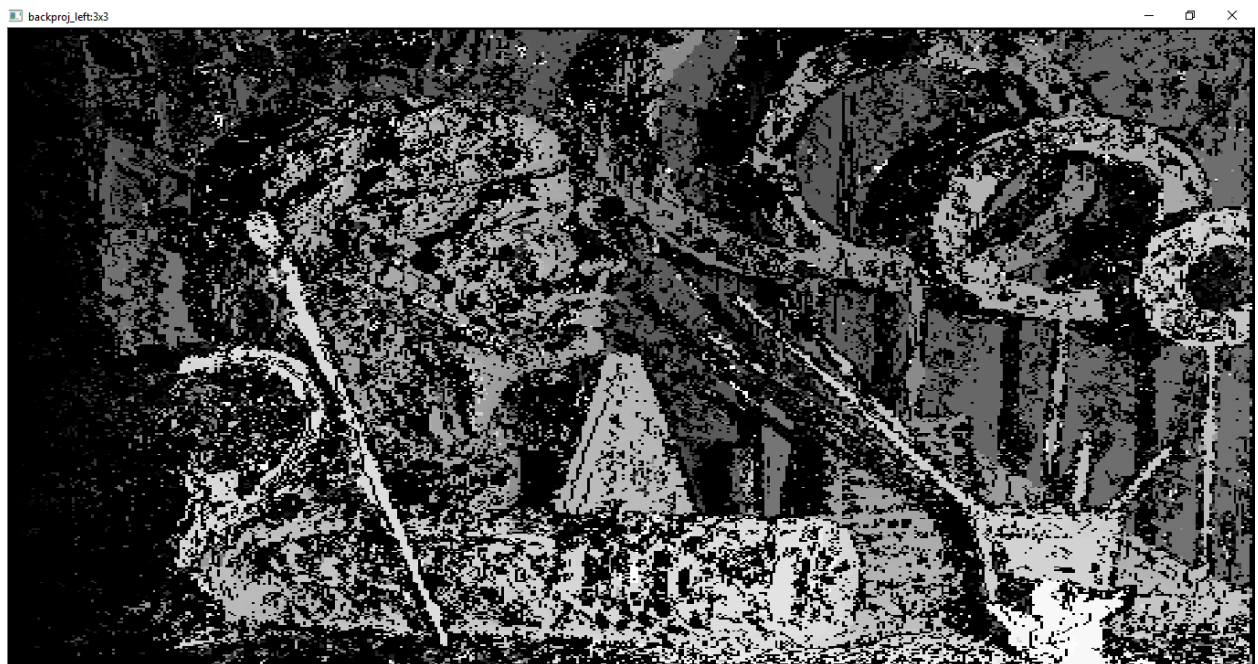## Right Disparity Map 3x3 Block

Left Disparity Map 9x9 Block

Right Disparity Map 9x9 Block
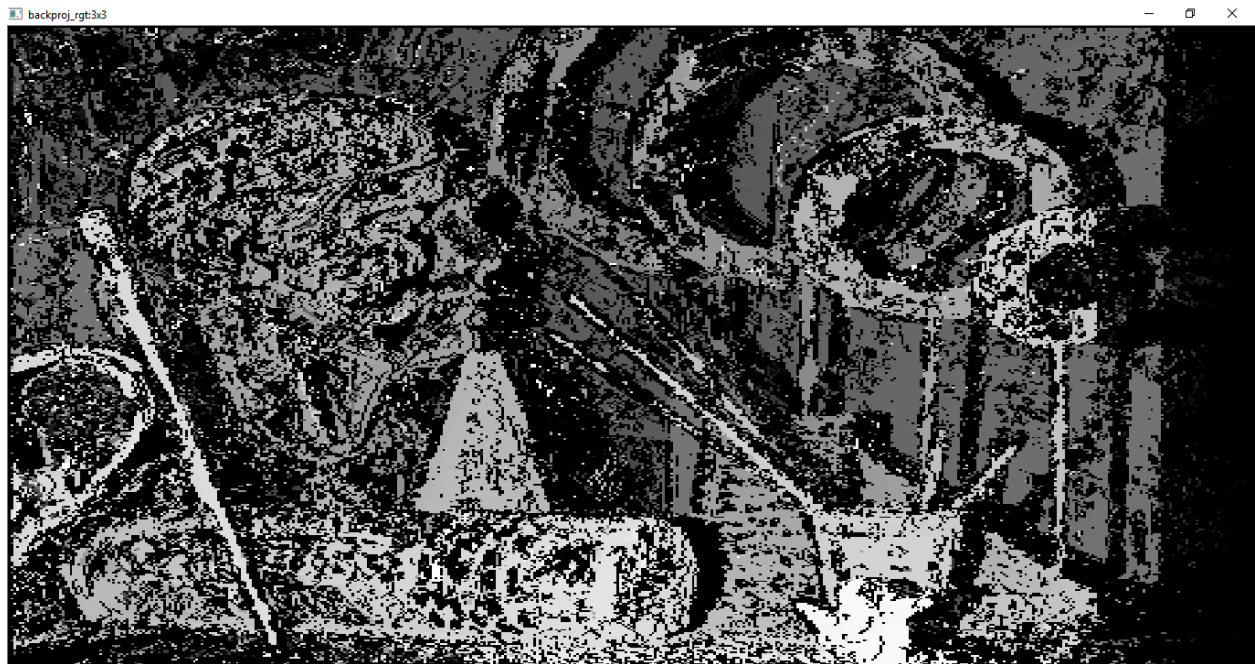

disparity_rgt:9 x 9 block

Back Projection:

Left Back Projection 3x3 Block – Consistency check

backproj_left:3x3

Right Back Projection 3x3 Block – Consistency check

Left Back Projection 9x9 Block – Consistency check

Right Back Projection 9x9 Block – Consistency check

Mean Square Error:

3x3 Block: Left Disparity Map: 388.789481058

3x3 Block: Right Disparity Map: 264.190671881

3x3 Block: Left Back Projection: 47.3325491798

3x3 Block: Right Back Projection: 44.8774852606

9x9 Block: Left Disparity Map: 301.501371782

9x9 Block: Right Disparity Map: 184.325894577

9x9 Block: Left Back Projection: 20.348461902

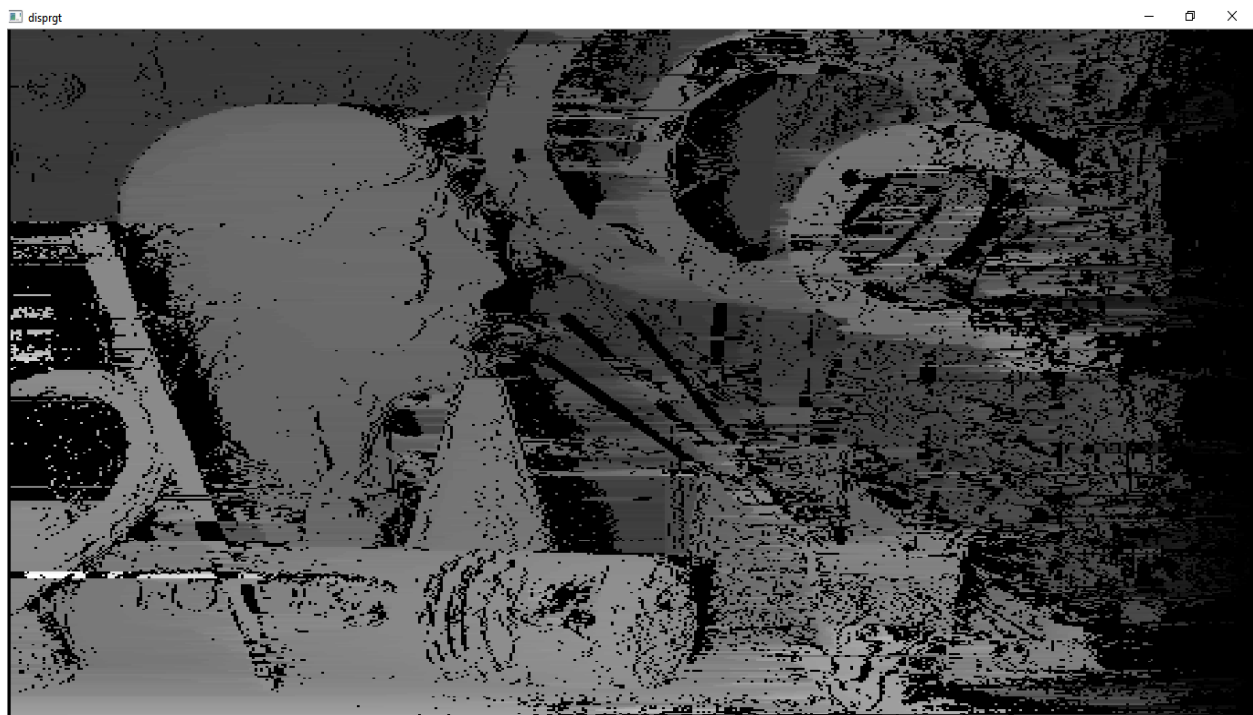*9x9 Block: Right Back Projection: 22.739823364*

Problem2: Dynamic Programming

View 1 (left) Disparity using dynamic programming:
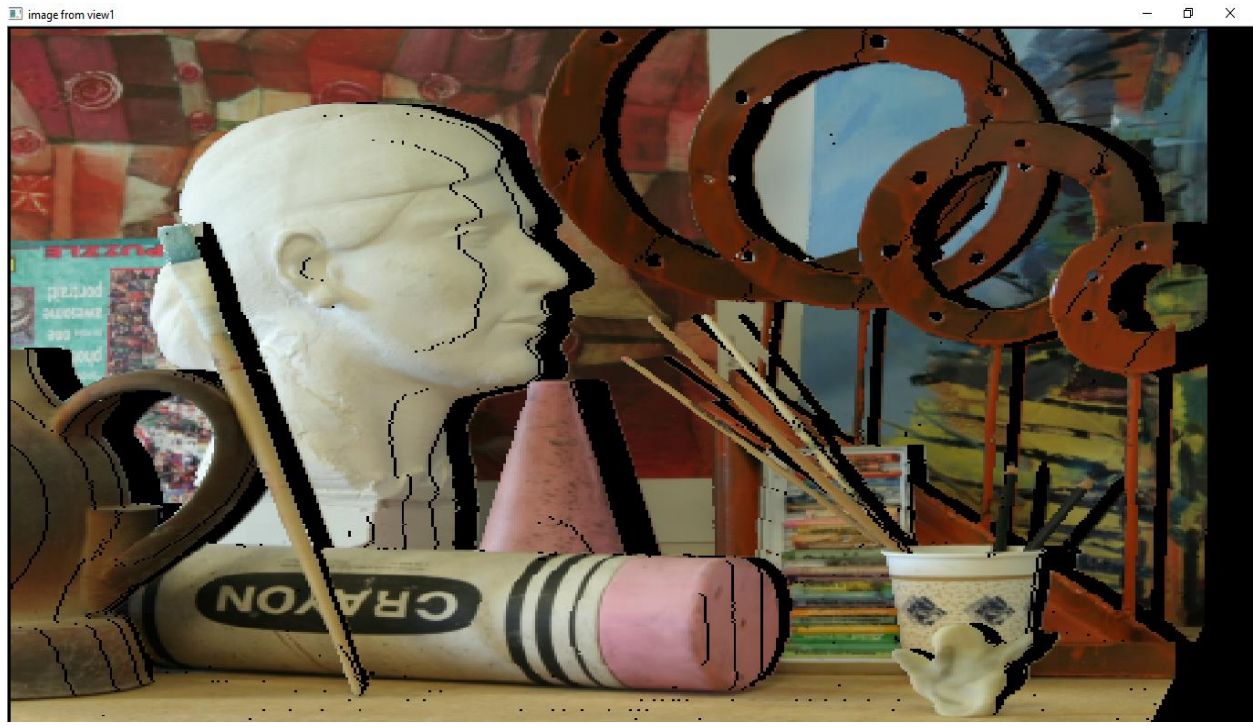

View 2 (right) Disparity using dynamic programming:

Problem3: View Synthesis

Using view1 and its disparity to render view 3.

Using view5 and its disparity map to fill up the holes in the above obtained image.

Adding the above 2 images to obtain view 3.