

GEORGIA INSTITUTE OF TECHNOLOGY
SCHOOL of ELECTRICAL and COMPUTER ENGINEERING

ECE 8813A Spring 2017
Problem Set #8

Assigned: 29-March-17

Due Date: 24-April-17

PROBLEM 8.1:

Given: The template file named HW6_top and the testbed named hw6_tb.v file.

Also find the attached paper entitled "Design of Sobel Operator based Image Edge Detection Algorithm on FPGA" written by Girish Chaple and R.D. Daruwala. Follow this procedure to implement

Find: Implement the Sobel Edge Detection Algorithm that detailed in the paper by Chaple and Daruwala. This operation will be completed when the sel_operation signal is set to 0. When the sel_operation signal is set to 1 the transpose operation should be completed. Output the image in BOTH VGA format and the streaming pixel format that was used in HW5. Run the hw6_tb.v file and observe that the correct VGA signal is output as well as the correct image files created. Two output images will be created after this testbed has been run. One file will contain the transposed image and the other will contain the edge detected image.