CS474/674 Image Processing and Interpretation

Fall 2008 – Dr. George Bebis

Programming Assignment 1

Due Date: 9/16/2008

PART A: Download and compile *Threshold.cpp* (or *Threshold.c*) from the CS474/674 webpage. Pick any two images from the "Image Database". Run *Threshold* on these images using the following threshold values: 32, 64, 128 and 200.

PART B: In this part, you will experiment with changing the resolution and gray level quantization of gray-scale images (i.e., see slides 31 and 32 from the introductory lecture on image processing).

Choose any two 256 x 256 images from the Image Database and do the following:

1. Write a program to change the spatial resolution to 128 x 128, 64 x 64, and 32 x 32 pixels. Display the new images and print them as 256 x 256 images (i.e., copy each pixel enough times to bring the size back to 256 x 256).

2. Write a program to change the gray-level quantization by reducing the number of bits per pixel from 8 to (i) 6, (ii) 4, and (iii) 2 bits/pixel. Display the images and print them.

Turn in a short report which explains what you did in this project as well as the results that you obtained. Include the source code of your implementation.