

10. Image representation and description

(a). Develop a program to implement the boundary following algorithm, the resampling grid and calculate the chain code and the first difference chain code. Use the image 'noisy_stroke.tif' for test. (For technique details, please refer to pp.818-822 (3rd edition, Gonzalez DIP) or boundaryfollowing.pdf at the same address of the slides.)

(b). Develop a program to implement the image description by the principal components (PC). Calculate and display the PC images and the reconstructed images from 2 PCs. Use the six images in 'washingtonDC.rar' as the test images.

Remarks about the preparation and submission of all assignments:

1. Totally we have 10 assignments: problem1-problem10. All students must complete and submit all these 10 problems. Problems and images and materials can be found at: <ftp.cs.sjtu.edu.cn/lu-ht/gonzalez>.

2. Pack your codes and reports of all problems into one '.zip (or .rar)' file with your name+id number as the file name, and send the file to htlu@sjtu.edu.cn.

3. The deadline is Dec. 25, 2014.

4. If you have any question, you can contact me through the above email or directly access me at SEIEE building 3-425.