BME 42-731 / ECE 18-795 Reading Assignment #2

Bioimage data analysis II: Image segmentation using graph cuts

Assigned on March-17-2010,
Due on March-31-2010 in class

A. Overview

The goal of this reading assignment is to review graph cut based image segmentation techniques.

B. Instructions

Write a report that briefly summarizes the graph cut based image segmentation techniques described in the references. Comment briefly on their strengths and limitations.

To minimize the workload, use only the following three references.

(1) Reference articles

[1] P. F. Felzenszwalb & D. P. Huttenlocher, Efficient graph-based image segmentation, *International Journal of Computer Vision*, vol. 59, pp. 167-181, 2004.

[2] Z. Wu & R. Leahy, An optimal graph theoretic approach to data clustering: theory and its application to image segmentation, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 15, pp. 1101-1113, 1993.

[3] J. Shi & J. Malik, Normalized cuts and image segmentation, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 22, pp. 888-905, 2000.

C. Report format

The report, including references, must not be more than 3 pages. Reports longer than 3 pages can not be accepted.

Page size: letter
Line space: single
Page margins: no less than 1 inch
Font size: 12 points for the main text; 10 points for listed references

D. General guidelines

- Divide your report into sections/subsections and use section/subsection titles for clarity and readability.

- Use your own words. Avoid literal replication of texts in references as this could run the risk of plagiarism http://www.studentaffairs.cmu.edu/acad_integ/acad_integ_text.html.

- Be sure to use quotation marks to indicate literal quotes.