Course Project

Proposal Due Wednesday 11/5/14
Project Due Monday 12/8/14

Overview:

This is an advanced graduate course and the goal of the course project to consider a problem of interest for your research that related to graphical models and inference. The project should make use of graphical models, belief propagation, random graphs and/or density evolution. Projects may be completed individually or in groups of two.

For project ideas, draw on your research and spend some time thinking about what interests you in this area. For example, find a paper in your area of research that uses techniques related to this class. You can also browse the papers posted on the course website and references in the book. Feel free to drop by and discuss your ideas with me.

Tasks:

1. Take some time to think and formulate a project.

2. Submit a project proposal consisting of 1 page. This is due 11/5/14.

3. Take some time to understand the problem, related algorithms, and their analysis.

4. Perform a minimal simulation that evaluates its performance and effectiveness. This may be completed in any programming language, but MATLAB is typically the easiest.

5. Write a report describing the application, analysis, or technique (e.g., 4-5 pages per person). It is often helpful to think of this as a short tutorial designed to explain what you've done to your fellow classmates. Do not list the simulation source code in your report.

6. Submit a printed copy of your report and e-mail a zip file containing an electronic copy of your report and all source code. One should be able to execute a main program that generates all the results plotted in your report.

Important Note: Plagiarism is a very serious offense in Academia. Any figures in the paper not generated by you should labeled "Reproduced from [...]". Any portions of any simulation code (e.g., MATLAB, C, etc...) not written by you be clearly marked in your source files. The original source of any mathematical derivation or proof should be explicitly cited.