MATH 640: Bayesian Statistics
Final Project, due Thursday, May 10

Instructions

1. The final project consists of two components: a written report and oral presentation

2. Due to time constraints, there can be no more than 10 groups (max of three per group)

3. The topic is up to you but must include at least one model involving an MCMC procedure

4. General Topic Ideas:

   - A thorough analysis, including sensitivity analyses, of a dataset of your choosing
   - Exploring a Bayesian model or models that we did not cover (note you will need to introduce the model to the class)

5. Every project *must* involve the analysis of real data

6. Everything is due at the start of the final exam period, Thursday, May 10 from 7:00pm to 9:00pm

Written Report

Your group will prepare a written report whose main body must be no more than four pages in length. The report must follow the style guide and must be written assuming the reader is unfamiliar with the data, thus sufficient background should be provided. Models do not need to be fully derived in the main body of the report, but should be derived in the appendix (again, follow the style guide here). References should also be included, particularly for your data source, as well as for any relevant background information. The reference section is not counted toward the page limit and should come after the discussion and before the appendix. All code must be included in the appendix as well.

Oral Presentation

On the day of the final, each group will give a 10 to 12 minute presentation with each group member speaking approximately the same amount of time. The format of the presentation is up to you, however you should be sure to introduce the project, provide background detail, define your models, and present and interpret your results.

Grade Breakdown

The written report and oral presentation are each worth 50% of the final project grade. The grade for written report will consist of five components: the introduction, methods section, results section, discussion section, and style. Each of those is components is worth 10% of the overall project grade. The grade for the oral presentation will also depend on five criteria: background, Bayesian models, analysis of the data application, discussion, and organization. Again, each component is worth 10% of the overall project grade.