Stats 201C Final Paper

Due: 5pm Friday, June 14. We will create a link on CCLE for you to upload a pdf file of your paper.

The final paper must be written independently. The topic of your paper should be related to, in a broad sense, the topics covered by the course. That is, it should be related to missing data, hidden variable models, network data, and/or graphical models. The paper can be a methodology, theory or applied paper. A review paper on relevant topics is acceptable, but *not* recommended.

The length of the final paper, including abstract, figures and tables, but excluding references, may not exceed 10 pages (single spacing). There is no strict requirement on the minimum length, but in general we expect a minimum of 6 pages. A few typical examples of a final paper are given as follows.

1. *Methodology paper*: A methodology paper develops a new method or proposes modifications to an existing method, followed by applications to simulation and real data to demonstrate the relative strength and weakness compared against existing methods. For a typical format and examples, see papers published in *Journal of the American Statistical Association* (Theory and Methods).

2. *Applied paper*: An applied paper describes principled applications of statistical methods to real-world datasets of interest or develops a specialized method for datasets in an applied domain. Simulation studies are often included to demonstrate the performance of the methods before real-data applications. For a typical format and examples, see papers published in *Annals of Applied Statistics*.

3. *Theory paper*: A theory paper often develops a set of theoretical properties about an existing or new method, each with a rigorous mathematical proof. Simulations may be included to demonstrate the theoretical results and verify their assumptions. For a typical format and examples, see papers published in *Annals of Statistics*.

It should be noted that differences between the three types of papers can be vague. It is not necessary to restrict your paper to only one of the three types. You may submit a paper that has ingredients in two or even three of them. Furthermore, we do *not* require the novelty of your paper meet the standard of a publishable research paper. Principled applications of existing methods with simulation studies are often acceptable as a final paper.