Course Project Information

What we expect from the course project:

- Read relevant/key results in literature on some topic of interest; you may focus on a single deep paper if you prefer.
- **Summarize** these key results, as well as the theoretical analysis (with proof sketches/outlines).
- **Implement** some of the main methods, and provide numerical experiments on simulated or real data.
- You are NOT required to do new research: you may develop new methods or theory if you like, but it is not required.

You will provide: (a) a proposal, (b) a progress report and (c) and final report.

You may work **by yourself or in teams of two**.

Project Proposal

Length: one page; Due: February 25.
It should contain the following information: (1) project title, (2) team members, (3) precise description of the problem you are studying, (4) what you intend to do for the project, and (5) reading list i.e. papers you will need to read.

Project Progress Report

Length: three pages; Due: April 7.
It should include: (1) introduction, (2) what have you done so far, (3) what remains to be done, and (4) a clear description of the division of work among teammates, if applicable.

Project Final Report

Length: 8 pages (excluding references; no appendix allowed) in NeurIPS format; Due: May 7.
It should include:
(1) introduction, with motivation and a quick summary of the area,
(2) notation and assumptions,
(3) key results,
(4) proof sketches of the results,
(5) experimental results (on simulated/real data),
(6) conclusion, and
(7) references.

Grading Criterion

Project proposal: 2%
Project progress report: 3%
Project final report: 20%
Total Project: 25%

Note: Please use the NeurIPS format and the structure below for your report. The page limits are strict! Don’t exceed the 8 page limit, excluding references. No appendix allowed.

Final Report Structure

1. Title, Authors (Including Andrew IDs)
2. Introduction (15%): What is the topic/area trying to solve, and why is it important?
3. Notation and Assumptions (5%)
4. Key Results (15%)
5. Proof Sketches for the results (30%)
6. Experimental Results (on simulated/real data) (15%)
7. Conclusion (5%): discuss the meaning of the results and open questions.
8. References and citations (5%): Clean and correctly formatted citations and bibliography.