15.095: Machine Learning Under a Modern Optimization Lens

Fall 2023

Project Proposal: Due November 6

Hand in: **pdf** upload to Gradescope.

For this course, apart from the two midterms, you will need to complete a final project. For this project, we encourage you to take some of the ideas that you have learned in class and apply them to an interesting problem. This problem may be a real-world application or a theoretical question that you would like to pursue. It is expected that you will work in teams of 2. Individual teams and teams of 3 may be allowed but require prior approval from the teaching staff. The project presentation will be due on December 8. On this date, you will submit a presentation; a final report (max 8 pages, not including appendices) summarizing your work should be submitted by December 13. In addition, teams of 2 (and 3) should include an additional half-page describing each team member's contributions. You will present your work to the entire class in the final lectures.

In order to select a topic for your final project, you will submit a 1-page proposal. This proposal should include:

- 1. Names of team members,
- 2. Emails of team members,
- 3. Problem summary,
- 4. Dataset(s) you plan to use (for applied projects),
- 5. Methods that you will use and how these relate to our class,
- 6. Challenges, and ideas to overcome them.

You must upload your proposals to Gradescope by 11:59pm on Monday, November 6, 2023. Each group only needs to upload one proposal. We will review your proposals and provide electronic feedback to each group. In addition, your group may schedule meetings with members of the teaching team to discuss your final project in-person.