15-780 Class Project

Important deadlines

- Project Proposal: Due 4/3 (in class)

- Project Presentations: In-class 4/24

- Final Project Reports: Due 5/4 (email by midnight ET)

Overview of class project

The class project in 15-780 gives you the opportunity to work in a group to explore some aspect of modern AI methods. This is intended to be very open ended, and thus we don't include "proposed" topics; rather, the project can address any topic, ranging from the implementation of some method, the evaluation of existing models, a proposal of new methodological approaches, or a theoretical analysis of some AI/learning setting. You can even do something more "product-oriented", like building an application leveraging some AI method (though you would need to write substantial code for the work yourself). The choice is really up to you, though you can also email the instructor and TAs to discuss potential projects.

Class projects must be done in groups of 2-3 students. You can use the Canvas messaging board to coordinate to find a group: `https://canvas.cmu.edu/courses/40146/discussion_topics`.

Project Components

Project Proposal The project proposal, due 4/3 in class, should be a < 500 word writeup of your intended project. You should list your group members, as well as a brief description of the topic you intend to work on, the papers or code you will build upon, etc.

Project Presentations On the last day of classes (4/24), groups will each present an **3 minute** short presentation of their topic. To allow sufficient time for all groups, note that we will be strict with this timing. For your presentation, you can either email slides to the instructor at least 2 hours prior to class, or use your own laptop with the HDMI connector in the room.

Final Report Due on 5/4 (sending an email to the TAs by midnight ET), you need to submit a final report on your project. The final report should be written in Latex using this template: `https://www.overleaf.com/latex/templates/style-and-template-for-preprints-arxiv-bio-arxiv/pkzcrhzcdxmc`, and should be a maximum of **five pages** (not including references). You may combine the authors so that they fit into a single line (and without e.g., any institutional information), but do *not* change any of the margins, font size, etc. You can optionally include an Appendix for additional content, but be aware that we will at most just scan such sections briefly, so it should mostly for your own reference if you want to have a more complete document. Similar logic applies to any code: you are welcome to include a link, e.g. to a GitHub repository or link to an archive of code. But be aware that we will likely only have time to look briefly at any such code.

Grading rubric

Since these projects cover quite different topics (e.g., some might be coding-based, others theory-based), there are slightly different ways of assessing each one. The following questions will be used to assess each project on a scale of 100 points.

- (5%) Was the project proposal submitted on time?

- (20%) Did the in-class presentation clearly describe the work done and give an overview of the project at the level that was understandable to the audience in the class?

- (15%) Does the project build upon a basis of existing work in the field, and properly describe this background work sufficiently to motivate the project?

- (40%) For coding-based projects: does the code implement a sufficiently involved method or model? Does it provide sufficient testing and evaluation to demonstrate the performance of the method? For algorithmic/theory-based projects: does the work provide sufficient derivation and analysis of a problem setting? [Projects that address both algorithmic analysis and implementation will be assess on both elements, though of course requiring a lesser amount of each.]

- (20%) Does the final written report clearly describe the project, the methods that were tried (potentially including some of the "dead-ends" that didn't end up working, though this should primarily be included if they constituted a significant portion of the project work), and the results obtained in the project?