

CS-4701 Practicum in Artificial Intelligence --- Fall 2025

Introduction

Project class. 2 credits
Team size: 2 preferred; 3 max

Phase

- 1) Team formation by Friday, September 19th.
- 2) Work on topic selection and project proposal
- 3) Project proposal due on Friday, 5pm, October 3rd (Gradescope).
- 4) Work on project. Intermediate feedback in office hours.
- 5) Project presentation and report due during Final Exams period.

Project Topic

You have much freedom in selecting your project. It should, of course, have a significant AI component, such as deep learning, NLU, vision, reasoning, or game play, among others. I will share a list of suggested topics, but think of something *you would like to have done but could not explore in any of your regular courses*. Typically, a project will involve a ***substantial coding component***. You are allowed to use code libraries, but you need to explicitly state what existing libraries you have used in your final report. You will also need to provide a ***detailed empirical evaluation of your approach***.

You want to work **on a topic/idea that you find fascinating. (E.g., LLMs reasoning capabilities and limitations.)** We want to see a serious effort, but we don't require a "top" performing system at the end. We want to see a clear understanding of the methods you used, including their strengths and weaknesses.

Grading

Projects are difficult to grade fairly (a bit like essays). Many incomparable components. How novel is the topic? How novel and effective is the proposed AI approach? How carefully was the approach implemented and evaluated? How well did it work? (I'll discuss tradeoffs along these dimensions in our organizational meeting.)

Key point: We are aware of the challenges associated with grading a project-based course. So, don't "worry" about the grade. Do the work! Do the work! (2 credits worth) If you do the work and demonstrate that you did, you will receive an A. Some outstanding projects will get an A+.

Doing the work means: (1) define your project topic and goal clearly, (2) specify a solid plan in your project proposal, (3) evaluate existing work (give at least 3 to 5 references), (4) define the AI approach you will use, (5) implementation, (6) detailed evaluation and discussion, (7) presentation and report. Your report and presentation should describe clearly what you did for (1) through (6). That's it!

Do not hesitate to email me (selman@cs.cornell.edu) if you have any questions, concerns, or comments. I also have my weekly office hour, Tuesday at 2 pm. Zoom link on canvas.