

Final Project

CS 730/730W/830, Spring 2012

Proposals due at **1:10pm in class on Mon, Apr 2**

Presentations are **9:00-noon on Wed, May 9**

Electronic submission due by **3pm on Tues, May 15**

Two hardcopies of paper are due **at my office by 3pm on Tues, May 15**

Overview

The purpose of the project is to give you a chance to investigate an AI topic in more depth than we can during the rest of the class. You may work in teams of up to three people. The topic must relate to the course (for example, it should appear in the textbook somewhere) but otherwise you may propose any topic you wish.

Proposal

The proposal must specify: 1) the problem you intend to investigate, 2) why it is interesting, 3) how you will address it (what you will do, including evaluation, with as much specificity as possible), 4) cartoon sketches of the results (eg, plots or tables) you intend to show, 5) who is responsible for each portion of the work (if it's a team project), and 6) what references and other sources you will rely on.

I suggest that you divide your work into three categories: things you absolutely must do for the project to work at all, things you plan to do that are important for success, and cool enhancements that you will do if you have time.

Presentation

Just before exam period, you will give a \approx 15 minute oral presentation of your project and the results obtained so far. Presentations of team projects will have each member present one after the other (each for 15 minutes). For a 15 minute talk, I would plan on showing maybe five to seven slides at most:

1. Example scenario showing the problem
2. Formal problem statement
3. Description of your algorithm (2 slides?)
4. Results of testing your algorithm (2 slides?)
5. Extensions you would do if you had time

Practice your talk (preferably in front of a sympathetic live person) before giving it in front of the class. Email me PDF (or PowerPoint if you absolutely must) before 7:30am or bring a USB drive to class.

Paper

This is the most important part of the project. Note that I won't grade your code, just your paper. If you can get compelling results with little coding, that's great. You will submit any source code you write (both electronically and as an appendix to your paper), but the write-up is what will be graded. It should 1) clearly state the problem that the project addresses, 2) discuss the methods employed in solving the problem, 3) evaluate their performance and adequacy, and relate them to other existing possibilities. You should 4) mention possible extensions of your project and things you would have done if you had more time. I recommend (but do not require) the AAAI format for your paper—templates for \LaTeX and Microsoft Word are linked from the course website.

If you are in the writing-intensive version, you must submit a draft for comments by the morning of May 10.

Please remember to hand in two copies of the final paper, since I like to keep one on file for posterity even if you want your marked-up copy back.

Evaluation

The proposal:

- 2 Ready to go
- 1 Significant problems, please resubmit
- 0 Completely non-specific

The presentation:

- 5 Great all around.
- 4 Good work, bad talk. At least one of problem, approach, or results was disappointing.
- 3 Clear, on track, no results. Or, approach a bit confused, but some results.
- 2 Not clear, something to show.
- 1 Nothing to show, project in serious jeopardy.
- 0 Didn't show up.

The paper:

- 23 Submit as is to AAI/IJCAI
- 20 Very nice work
- 18 Good.
- 16 Very rough in significant parts.
- 10 Some work, but not a decent project.

- Roughly:
- 3 clear motivation and problem specification
 - what is the problem you are attacking? be specific.
 - how does it relate to this course?
 - why is it interesting or important?
 - 2 discussion of possible approaches
 - what are their good and bad points?
 - 8 your approach/algorithm
 - how does it work?
 - why is it appropriate to the problem?
 - why would you expect it to work well?
 - 5 evaluation methodology
 - what tests did you run?
 - are you sure it works?
 - does it work better than another reasonable things one might try?
 - how would you improve it if you had more time?
 - what advice do you have for future students doing this kind of project?
 - 5 quality of the writing
 - is it clear, easy to follow?
 - no grammar, spelling, or reasoning mistakes?
 - does it thoroughly address all the questions in these grading standards?

Those in 730W will be weighted more highly on the quality and thoroughness of their writing (form) and less on the technical sophistication of the work described (content).

There is no page minimum or limit. Please be concise but thorough in answering the questions listed above.