CS 7180: Behavioral Modeling and Decision-making in AI

Term Project Description

Prof. Amy Sliva
September 7, 2012
Requirements

• You will need to do a term project related to AI planning
  • To be done by teams of 3 (or 4) people
  • Come up with an idea to investigate
  • Figure out how to carry out the investigation
    • Either theoretically or experimentally or both

• Project proposal, near the middle of the semester
  • Written proposal and in-class presentation (10 minutes)
  • Describe what you are going to do for your project and get feedback

• Final report, at the end of the semester
  • Written report and in-class presentation (20 minutes)
  • Describe your results
Project proposal format

• Purpose
  • Make sure you have a good idea
  • Make sure you can carry it out
• You will not get a separate grade for the proposal, but you will need me to approve it

• Written proposal
  • A few pages long
  • Font size: 11 or 12 points
  • Margins at least one inch wide
  • Email it to me with subject “CS7180 Term Project Proposal”
    • Preferably PDF
• The deadline is midnight (11:59:59pm) October 19
Suggested proposal outline

• Title and authors
• **Abstract**: quick summary of what you are proposing, and why it is worth doing
• **Introduction** (*convince the reader that the rest of the proposal is worth reading!*)
  - What topic do you propose to work on? What have others done on that topic? What remains to be done? Why is it interesting and significant?
• **Technical approach** (*describe the work you will do*)
  - What approach do you intend to use? Why do you think it will work?
  - How will you evaluate it? (e.g., theorems and proofs, implementation and experiments)
• **Project management** (*make sure you can actually perform the work*)
  - What are the major tasks to accomplish?
  - Who will do which tasks?
  - Tentative schedule showing when you will start and finish each task
• **Conclusion** (*explain why the proposed work is worth doing*)
  - Summary of what you think you’ll accomplish, and why it’s worthwhile
Proposal presentation

• Presentations in class Oct. 24

• 10 minutes for the presentation, including discussion and questions

• By noon on the day of the presentations, please email a copy of it to me
  • Subject “CS7180 Proposal Presentation”
  • Either PDF or PowerPoint
Final project reports

• Written report
  • Email it to me in PDF format with subject “CS7180 Term Project Report”
    • A few pages long
    • Font size: 11 or 12 points
    • Margins at least one inch

• The deadline is midnight (11:59:59pm) December 3

• You will need to do a 20-minute in-class presentation of your project
  • Dates are reserved in the class schedule for December 5 and 7
  • As we get closer to the presentation dates, I will schedule specific dates and times for each of you
Suggested report outline

• **Title and authors**
• **Abstract**: quick summary of what you accomplished
• **Introduction** *(convince the reader that the rest of the proposal is worth reading)*
  • Summarize the problem you worked on, why the problem is important, and what your results are
• **Related work** *(can either go here or just before the conclusions)*
  • What others have done
  • Strengths and weaknesses of their work
  • How it compares to your work
• **Approach**
  • What your idea is, and how it works
  • Make sure your explanation will be clear to someone who is not already familiar with what you are doing
• **Theoretical Results** *(if you have any)*
  • Theorems, proofs, examples, etc.

*(continued on next slide)*
Suggested report outline (continued)

- **Implementation** *if you have one*
  - What it does, what language or system it is written in, etc.
  - Use figures or screendumps if appropriate
- **Experiments** *if you have any*
  - Purpose (e.g., experimental hypotheses you wanted to test)
  - Experimental design
  - Experimental results
    - Use tables or graphs (preferably graphs)
  - What the results mean
- **Conclusions**
  - Summarize what you accomplished
  - What significance or impact or meaning does it have?
  - Honest assessment of the limitations of your work
    - What one could do overcome those limitations
- **References**
  - All of the references that you cited in the paper
Developing project topics

• Some things to look at
  • Chapters in the book, published papers, the homework problems
  • Discuss ideas on Piazza
  • Come to office hours and run some ideas by me for feedback

• Get together with others and have a **brainstorming** session
  • Need a blackboard or whiteboard. Designate someone to write on it
  • Everyone should start throwing out ideas – brief phrases
    • Don’t discuss or criticize any of them
    • The writer should put each of them on the blackboard
    • Don’t censor yourself – propose ideas even if they seem crazy
  • Keep going until you run out of ideas
    • **Then** discuss them and criticize them
    • Figure out which ones make sense
What makes a good term project

• What will be needed to carry out the idea?
  • Is it too hard to accomplish in the amount of time that you have?
  • Is it too easy to count as a “real” project?

• Is the project worth doing?
  • Is it something that interests you? Will you have fun doing it?
  • Will the results be interesting if they turn out the way you expect?
  • Will the results still be interesting if they turn out differently than how you expect?
    • Negative results can sometimes be just as interesting as positive ones