CS 321

Decision Making in Artificial Intelligence

Dave Musicant

Icebreaker

What is Artificial Intelligence (AI)? Come up with a definition.

Topics we'll cover

- Intelligent search
- Multiplayer game playing strategies
- Automated logical reasoning
- Prolog programming
- Probabilistic decision making
- Reinforcement learning
- ... More as time allows!

Topics we won't cover (much)

CS 320: Machine Learning

- Supervised and unsupervised machine learning
- Neural networks

CS 322: Natural Language Processing

- chatbots
- interact with you like a human

CS 328: Computational Models of Cognition

- modeling how humans learn and think, with computational ideas

Structure of class

Flipped format:

- videos or readings and quizzes due before class for basics
- lecture and Q&A in class for more in-depth
- worksheets in class to be done in groups

Assignments:

- mix of programming and analysis
- mix of individual and pair

Exams:

- in-class exams
- worksheets from class should be good practice

Textbook

Artificial Intelligence, A Modern Approach (4th ed):

- Stuart Russell and Peter Norvig (director of research at Google)
- Used by over 1500 schools
- Can digitally rent for the term for $40
- 3rd edition came out in 2009, lots of updates to 4th edition (2020)

Deadlines

Pre-class quiz due by beginning of class.

- Due date appears in Moodle as "expected completion date."
- Have 7 "quiz" late days that you can use, automatically applied (by grader).
- Might be more than one quiz on a given day, since Moodle ties to individual videos.

Assignments (programming or analysis) have regular deadlines in Moodle.

- Have 7 "assignment" late days that you can use, similar.
- Will mostly be due on class days (M/W/F, at 10pm).

Course grader: Carl Tankersley

Classroom guidelines

Laptop multitasking hinders classroom learning for both users and nearby peers

- Faria Sana, Tina Weston, Nicholas J. Cepeda

> Laptops are commonplace in university classrooms. In light of cognitive psychology theory on costs associated with multitasking, we examined the effects of in-class laptop use on student learning in a simulated classroom. We found that participants who multitasked on a laptop during a lecture scored lower on a test compared to those who did not multitask, and participants who were in direct view of a multitasking peer scored lower on a test compared to those who were not. The results demonstrate that multitasking on a laptop poses a significant distraction to both users and fellow students and can be detrimental to comprehension of lecture content.

Classroom guidelines

If you will be using a laptop:

- recommendation is to sit in back
- if need to sit elsewhere, then use it to take notes and that's it
- others in class are empowered and encouraged to ask you to cease multitasking

Regardless, take notes!

- Paper is awesome
- Helps keep you focused
- Helps you remember what you want to ask about
- Helps you assist others who are out
- Look up Cornell Notes

Handling when you can't be here

- Pre-class materials will be posted to Moodle
- Worksheets will be posted to Moodle
- In-class lecture topics will match sections in textbook, posted to Moodle
- In-class teams can help take notes for each other; make a plan right away
- . . . but won't be recording class.

Slack is primary communication method for course

- Link on Moodle for invite
- Announcements will go to Slack
- Post all q&a related to course. . . and answer each other!
- Find a notification system that works for you
- If you email me, I'll nicely ask you to repost it to Slack (unless it's personal)
- If you feel you must, `/anonymous`, but please use sparingly.

My communication timing

I'll check Slack / email 3 times a day on weekdays:

- First thing in the morning (once approx 6-8am)
- Midday (once approx 11:30pm-1:30pm)
- End of working day (once approx 4:30pm-6:30pm)

Weekends are more sporadic

Special announcement for upcoming Monday

- Guest speaker: Collin Stultz of MIT
- Visiting Carleton early next week (virtually)
- Practicing physician who uses AI approaches
- More info to follow