CS 161: Fundamentals of AI

Guy Van den Broeck

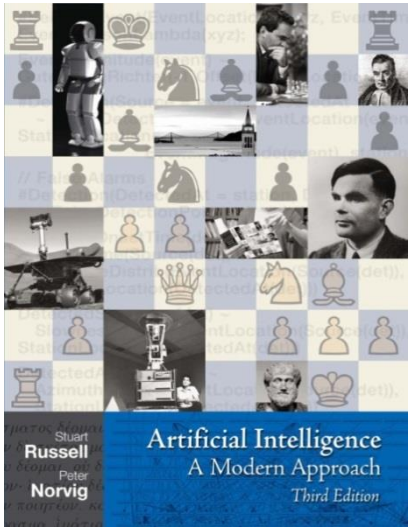
Spring 2019

Course Information

- Instructor:
  Prof. Guy Van den Broeck <guyvdb@cs.ucla.edu>
- TAs:
  - CHEN, XUELU 1C: BOELTER 9436 / Friday / 12:00pm-1:50pm shirleychen@cs.ucla.edu
  - DARABI, SAJAD 1A: BOELTER 5436 / Friday / 2:00pm-3:50pm sajad10@ucla.edu
  - LI, ANG 1B: BOELTER 5436 / Friday / 10:00am-11:50am solarheart1988@ucla.edu
- TA office hours TBA on course website
- Instructor Office Hours: Mon 11.00-12.00

Course Information

- Textbook
  Artificial Intelligence: A Modern Approach
  by Stuart Russell and Peter Norvig
- Grading will be based on
  - Homework (20%)
  - Midterm (35%)
  - Final (45%).



Homeworks

- Regular programming homeworks (in LISP)
- Some pencil and paper homeworks
- Don’t be late!
- Honor Code!!!
  - You are encouraged to work on your own in this class. If you get stuck, you may discuss the problem with up to two other students, **PROVIDED THAT YOU SUBMIT THEIR NAMES ALONG WITH YOUR ASSIGNMENT**. **ALL SOLUTIONS MUST BE WRITTEN UP INDEPENDENTLY, HOWEVER**. This means that you should never see another student's solution before submitting your own. You may always discuss any problem with me or the TAs. **YOU MAY NOT USE OLD SOLUTION SETS UNDER ANY CIRCUMSTANCES**. Making your solutions available to other students, **EVEN INADVERTENTLY** (e.g., by keeping backups on github), is aiding academic fraud, and will be treated as a violation of this honor code.
  - You are expected to subscribe to the highest standards of academic honesty. This means that every idea that is not your own must be explicitly credited to its author. Failure to do this constitutes plagiarism. Plagiarism includes using ideas, code, data, text, or analyses from any other students or individuals, or any sources other than the course notes, without crediting these sources by name. Any verbatim text that comes from another source must appear in quotes with the reference or citation immediately following. Academic dishonesty will not be tolerated in this class. Any student suspected of academic dishonesty will be reported to the Dean of Students. A typical penalty for a first plagiarism offense is suspension for one quarter. A second offense usually results in dismissal from the University of California.

Tentative Overview

Week	Date	Topic	Chapter
Week 1	Apr 2	Course introduction: What is AI?	Chapter 1,2
	Apr 4	Problem solving as search	Chapter 3
Week 2	Apr 9	Uninformed search strategies (Rich Korf)	Chapter 3
	Apr 11	LISP programming	
Week 3	Apr 16	Informed search strategies	Chapter 3
	Apr 18	Heuristics	Chapter 3
Week 4	Apr 23	Constraint satisfaction	Chapter 6
	Apr 25	Constraint satisfaction	Chapter 6
Week 5	Apr 30	Game playing	Chapter 5
	May 2	Game playing	Chapter 5
Week 6	May 7	Propositional logic: Representation	Chapter 7
	May 9	**Midterm exam**	
Week 7	May 14	Propositional logic: Inference	Chapter 7
	May 16	First-order logic: Representation	Chapter 8
Week 8	May 21	First-order logic: Inference	Chapter 9
	May 23	Reasoning under uncertainty	Chapter 13
Week 9	May 28	Bayesian Networks	Chapter 14
	May 30	Bayesian Networks	Chapter 14
Week 10	Jun 4	Machine Learning: Decision Trees	Chapter 18
	Jun 6	Machine Learning: Deep Learning	Chapter 18
Week 11	Jun 10	**Final exam (11.30am-2.30pm)**	

Exams

- Midterm exam
  - Free-form exercises
  - Multiple choice questions
    - True/false questions on theory
    - Choose the right answer to exercises
- Final exam
  - Entirely multiple choice (because logistics)
  - Covers all the material (but more after midterm)
- See study guides posted before exams
- Closed book exams, only simple calculators

Questions?