

CS161: FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE

Syllabus - Spring 2020

<http://ccle.ucla.edu>

Instructor: Professor Adnan Darwiche, email darwiche@cs.ucla.edu. Office Hours: 3:00-4:00pm Wednesdays.

Teaching Assistants: Posted on CCLE (including office hours).

Text: “Artificial Intelligence: A Modern Approach,” by S. Russell and P. Norvig, Prentice Hall, Third Edition, 2010.

Grading: 30% homework, 30% midterm, and 40% final.

Assignments: Weekly assignments; usually released on Tuesdays.

Outline: The outline below is tentative and subject to change.

1. Introduction to course, artificial intelligence, and LISP. Chapters 1-2.
2. LISP continued.
3. Problem solving as search. Chapter 3.
4. Systematic search strategies. Chapter 3.
5. Informed search strategies, local search. Chapters 3, 4.
6. Constraint satisfaction. Chapter 6.
7. Game playing and adversarial search. Chapter 5.
8. Propositional logic: Representation. Chapter 7.
9. Propositional logic: Inference. Chapter 7.
10. First-order logic: Representation. Chapter 8.
11. Midterm exam (tentative).
12. First-order logic: Inference. Chapter 9.
13. Reasoning under uncertainty. Chapter 13.
14. Bayesian networks: Syntax and semantics. Chapter 14.
15. Bayesian networks: Modeling and inference. Chapter 14.
16. Machine Learning: Probabilistic Graphical Models. Chapter 20.
17. Machine Learning: Decision Trees & Graphs. Chapter 18.
18. Machine Learning: Neural Networks. Chapter 18.
19. Machine Learning: Neural Networks (deep learning).
20. Machine Learning: Neural Networks and wrap-up.