CS480 – Introduction to Artificial Intelligence

Topic: Syllabus

Mustafa Bilgic

http://www.cs.iit.edu/~mbilgic

https://twitter.com/bilgicm

Course Information

- Date and location:
  - I presume you already know
    - Unless you are here by accident
- Instructor:
  - Dr. Mustafa Bilgic
    - Associate Professor in CS
    - Co-Director of the BS-AI and MAS-AI programs
    - Director of the Machine Learning Laboratory
- Office location and hours:
    - SB 217C – Tuesdays 11am-12pm (or by appointment)
- TA:
  - None yet

Course description

http://bulletin.iit.edu/search/?search=cs+480

Introduction to computational methods for intelligent control of autonomous agents, and the use of programming paradigms that support development of flexible and reactive systems. These include heuristic search, knowledge representation, constraint satisfaction, probabilistic reasoning, decision-theoretic control, and sensor interpretation. Particular focus will be placed on real-world application of the material.

What is AI?

- Anyone?

Textbook

- Artificial Intelligence: A Modern Approach
  - 3rd edition
  - by Stuart Russell and Peter Norvig
  - http://aima.cs.berkeley.edu/

Fundamentals vs "that shiny thing"

- The list of applications of AI is changing and growing fast
- I am afraid we will not be chasing the latest and greatest
- We will learn
  - The fundamentals of AI
  - An introduction to AI
  - About some applications of AI
  - How to distinguish hype from reality in the news
  - Programming some of the fundamental AI algorithms

Related CS Courses

- http://bulletin.iit.edu/courses/cs/
- 400-level
  - CS 422, CS 429, CS 481, CS 482
- 500-level
  - CS 512, CS 522, CS 529, CS 577, CS 578, CS 579, CS 580, CS 581, CS 582, CS 583, CS 584, CS 585
- Some courses are offered more frequently than others
  - https://science.iit.edu/computer-science/programs/computer-science-courses-offered

Course Topics

- Chapter 1 - Introduction
- Chapter 2 - Intelligent Agents
- Chapter 3 - Solving Problems by Searching
- Chapter 5 - Adversarial Search
- Chapter 6 - Constraint Satisfaction Problems
- Chapter 7 - Logical Agents
- Chapter 8 - First-order Logic
- Chapter 9 - Inference in First-Order Logic
- Chapter 13 - Quantifying Uncertainty
- Chapter 14 - Probabilistic Reasoning
- Chapter 16 - Making Simple Decisions
- Chapter 18 - Learning From Examples
- Chapter 20 - Learning Probabilistic Models

Websites

- GitHub
  - https://github.com/cs480-f19/CS480
  - Slides and notes will be posted here
- Piazza
  - https://piazza.com/class/jyqgg8nkwow2jw
  - Questions and answers
- Blackboard
  - https://blackboard.iit.edu/
  - Calendar

Programming

- Python 3.7
  - https://www.python.org/
- Jupyter notebook
  - https://jupyter.org/
- Plus, other Python packages as needed

Git

- https://git-scm.com/

1. Pull from class repository to remain up to date: https://github.com/cs480-f19/CS480
2. Assignments
   - You will submit your assignments to a GitHub repository
   - Be familiar with the following commands at the least
     - `status, add, commit, push`

- https://education.github.com/git-cheat-sheet-education.pdf
- https://enterprise.github.com/downloads/en/markdown-cheatsheet.pdf

GRADING

Assignments	30%
Midterm	30%
Final	40%

Assignments

- Includes both
  - Typical "Please answer the following question" types of questions, and
  - Programming (Python and Notebook) questions
- Some assignments are harder and worth more points than others

Exams

- Only "Please answer the following question" type
- No actual code questions; might include pseudo-code questions

Late Submission Policy

- 5-minute grace period
- After that, every late minute will cost you a point

Academic honesty

- If you violate the academic honesty (such as unauthorized/undocumented collaboration, cheating, etc.), then depending on the severity of the violation, it can result in
  - zero points on the respective assignment,
  - E in the course,
  - suspension of your enrollment at the university,
  - expulsion from the university.
- Full guidelines are available at: https://web.iit.edu/student-affairs/handbook/fine-print/code-academic-honesty

Americans with Disabilities Act (ADA) Policy

- Reasonable accommodations will be made for students with documented disabilities. In order to receive accommodations, students must obtain a letter of accommodation from the Center for Disability Resources
- https://web.iit.edu/cdr

Questions?