CSCE 4613/5613
Artificial Intelligence

Class Overview

Spring 2026

Prof. Khoa Luu
khoaluu@uark.edu

Class Info

- Instructor: Prof. Khoa Luu

  (https://engineering.uark.edu/directory/profile/uid/khoaluu/name/Khoa+Luu/)

- Email: khoaluu@uark.edu

Class Info

- Co-Instructor: Dr. Thanh-Dat Truong (https://truongthanhdat.github.io/)
- Email: tt032@uark.edu
- Office Location: JBHT - Room 348

TA/GA

Manuel Serna-Aguilera: mserna@uark.edu

Pedro Abasto: pa016@uark.edu

Mariha Siddika Ahmad: ma135@uark.edu

Class Info

- Course Mode of Delivery: face-to-face

- **Course Website:** https://uark-cviu.github.io/classes/csce4613/

- Communication: **MS Team & In-person**

Class Info

- Time: **Tue-Thu, 12:30 PM - 1:45 PM**
- Office hours: Tue, 11:00 AM - NOON
- Appointment: MS Team or In-Person

Course Requirements

- Submission Place: Blackboard
- Six/Seven (individual/group) Assignments
- Midterm Exam
- Final Exam
- Final Project (Presentation + Program + Report)
  (Encourage students to join!)
- Reports: Google Doc or AAAI template (Latex)
  https://aaai.org/Conferences/AAAI-20/aaai20call/

Changes to the Syllabus

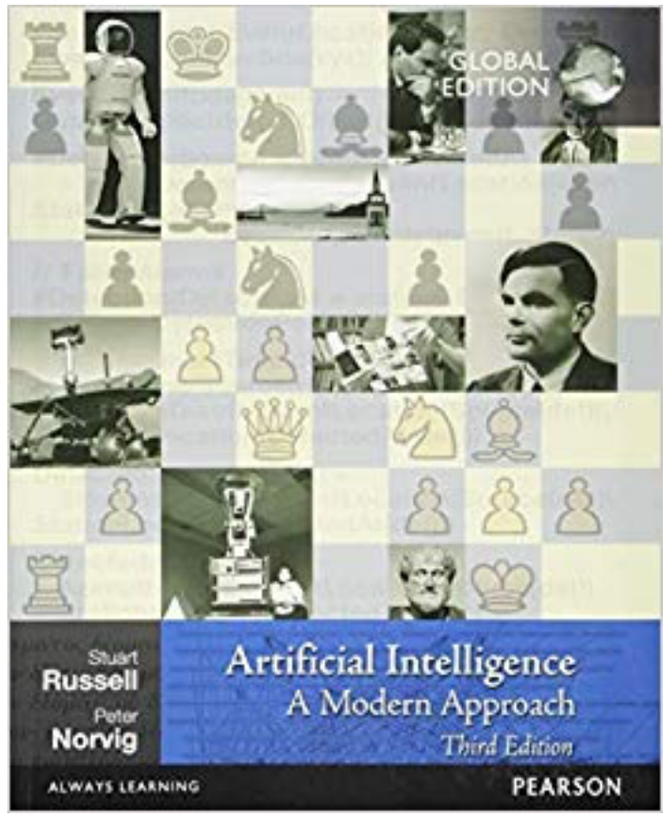
- The standards and requirements may be modified at any time by the course instructor.

- Notice of such changes will be announced in class or posted on Course Website.

Textbook

- Most important materials will be covered in slides/lectures

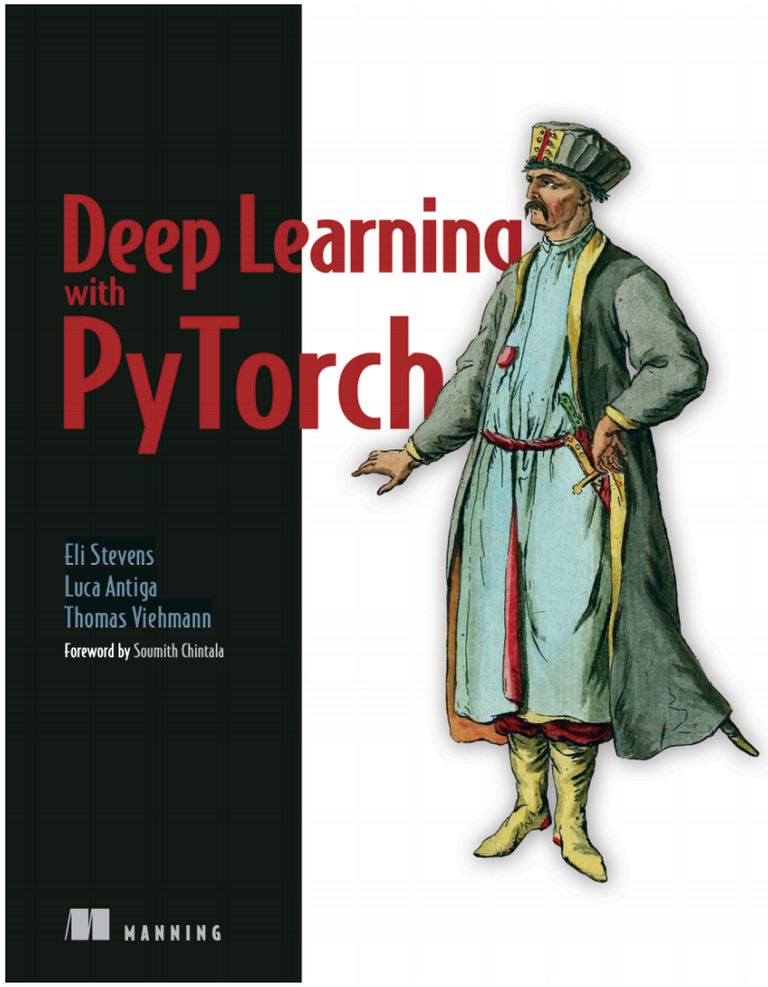
- **Artificial Intelligence: A Modern Approach,** Third Edition, Pearson Publisher, 2010
  by Stuart Russell and Peter Norvig
  http://aima.cs.berkeley.edu



Textbook

- Most important materials will be covered in slides/lectures

- **Deep Learning with Pytorch**
  by Eli Stevens, Luca Antiga & Thomas Viehmann
  https://www.manning.com/books/deep-learning-with-pytorch



Reference Materials

- THE ASSOCIATION FOR THE ADVANCEMENT OF ARTIFICIAL INTELLIGENCE http://www.aaai.org
- AAAI Conference: https://aaai.org/Conferences/AAAI-20/
- AI Magazine: https://www.aaai.org/ojs/index.php/aimagazine/issue/archive
- **Compendium of Vision**
    - http://homepages.inf.ed.ac.uk/rbf/CVonline/
- **IEEE Explore**
    - https://ieeexplore.ieee.org/Xplore/home.jsp
- **Journals**
    - https://ieeexplore.ieee.org/Xplore/home.jsp

Programming Languages

- Python (Mainly)
- Matlab

Why Python?

Worldwide, Aug 2021 compared to a year ago:

Rank	Change	Language	Share	Trend
1		Python	29.93 %	-2.2 %
2		Java	17.78 %	+1.2 %
3		JavaScript	8.79 %	+0.6 %
4		C#	6.73 %	+0.2 %
5	↑	C/C++	6.45 %	+0.7 %
6	↓	PHP	5.76 %	-0.0 %
7		R	3.92 %	-0.1 %
8		Objective-C	2.26 %	-0.3 %
9	↑	TypeScript	2.11 %	+0.2 %
10	↓	Swift	1.96 %	-0.3 %

Source: https://pypl.github.io/PYPL.html

Grading

The grading in this course will be distributed as follow

- Participation: 5%
- Homework: 50%
- Midterm: 25%
- Final: 20%
- Final Project 2% (Bonus)

Approach

- Grading based on absolute scale
- Getting an A v.s mastering the materials
- Take advantage of extra credits
- Build your resume with meaningful project experience

Late Days

- 5 late days in total (except for Midterm & Final exams)
- 3 days per assignment/project maximum use
- Use them wisely (save them for the last ones)

Learning Objectives

- Describe AI concepts, models, algorithms
- Model real-world problems using AI models
- Implement AI algorithms introduced in class
- Deliver written and oral presentation (bonus)

Pre-requisites

CSCE 3193 or CSCE 3193H or DASC 2103

Please see the instructors if you are unsure whether your background is suitable for the course.

Major Topics In This Course (15w)

(Subject to change)

1. Introduction to AI (1 Week)
2. AI Programming Reviews (Python & Google Colab) (1 Week)
3. Search & Heuristics (2 Weeks)
4. Satisfiability (1 Week)
5. Deterministic/symbolic reasoning (1 Weeks)
6. Knowledge representation (2 Weeks)
7. Probabilistic reasoning (1 Weeks)
8. Sequential Decision Making (1 Weeks)
9. Neural Networks (1 Weeks)
10. Deep Learning Basics (2 Weeks)
11. A.I Applications (1 Week)

Disability Accommodations

If you have a disability and have an accommodations letter from the Disability Resources office, we encourage you to discuss your accommodations and needs with us as early in the semester as possible.

We will work with you to ensure that accommodations are provided as appropriate.

If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, we encourage you to contact them at

Academic Integrity

- Strict honor code with severe punishment for violators. UA's academic integrity policy can be found here: https://honesty.uark.edu/policy/

- You may discuss assignments with other students as you work through them, but writeups must be done alone.

- No downloading / copying of code or other answers is allowed.

- If you use a string of at least 5 words from some source, you must cite the source

Student Well-Being

- Start early! Avoid last-minute panic.
- UA services and resources are available, and treatment does work

  https://registrar.ua.edu/student-services/
- Take care of yourself