COMP 341
Introduction to Artificial Intelligence

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Koç University

Warning: Video Recording

Hello!

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- Office: Eng 273
- Office Hours: TBD (appointments possible)
- Any questions you want to ask about me?

TAs

NAME	E-MAIL	OFFICE HOURS
Alper Saydam	asaydam21@ku.edu.tr	by appointment
Can Gözpınar	cgozpinar18@ku.edu.tr	by appointment
Aydin Ahmadi	aahmadi22@ku.edu.tr	by appointment
Zeynep Abalı	zabali16@ku.edu.tr	by appointment

What about you?

Raise your hand:

- Department
- Year
- Linear algebra confidence
- Probability confidence
- Python knowledge

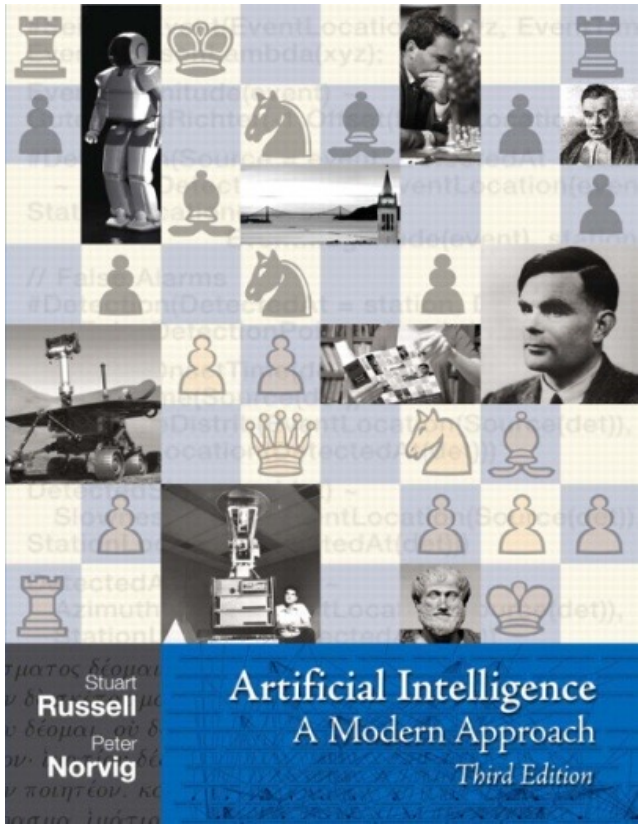
Syllabus

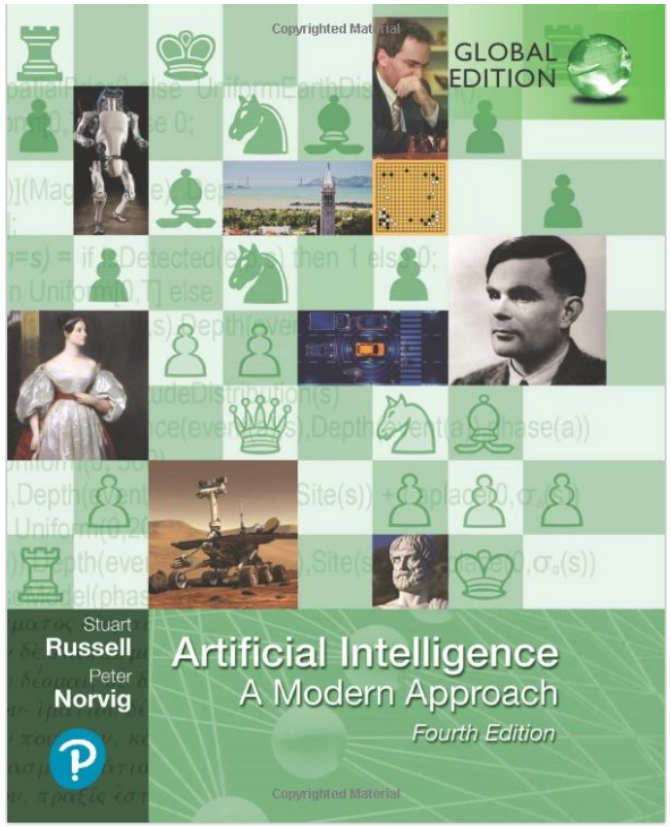
- Scan this or use blackboard to get the syllabus
- I will go over a few points here
- Link for pdf

Course Management and Communication

- Blackboard will be used for course management:
  - Course content
  - E-mail announcements
  - Extra material, Useful links
  - Past exams and their solutions
  - Code exercises
  - Assignments and Assignment Submissions
  - Posting grades
  - Lecture Videos
- **Everybody is expected to check their e-mails!**
- Do not hesitate to reach out to us through: comp341-tas-group@ku.edu.tr

Textbook – AIMA





- Russell & Norvig, AI: A Modern Approach
  - Both 3rd and 4th editions work
- Marked as required but you do not have to buy it
- This class follow additional sources as well

In Class

- I strongly encourage you to attend the lectures, but I do not take attendance
- If you do not disturb me or your friends and do not make a mess, you can do whatever you want in the class. For example:
  - Play with your laptop, tablet or phone but I do not want any **blue** faces or noise
  - Work on some other course's homework
  - Sleep unless you snore, read a book but no newspapers
  - Daydream, plan your weekend, contemplate life
- I will give 5 to 10-minute breaks during most lectures

- In return, I ask you to be quiet while I am teaching

Assessment

- Exams:
  - 2 MTs, 15% each for 30% total, min. req. 10% out of 30%
  - 1 Comprehensive Final, 35%, min. req. 12% out of 35%
- Homeworks:
  - 5 Planned, 35% total, min req. 12% out of 35%
  - Mix of programming and written
  - There maybe extra HWs, will be graded as extra or as replacement
- Minimum grade to pass 40%

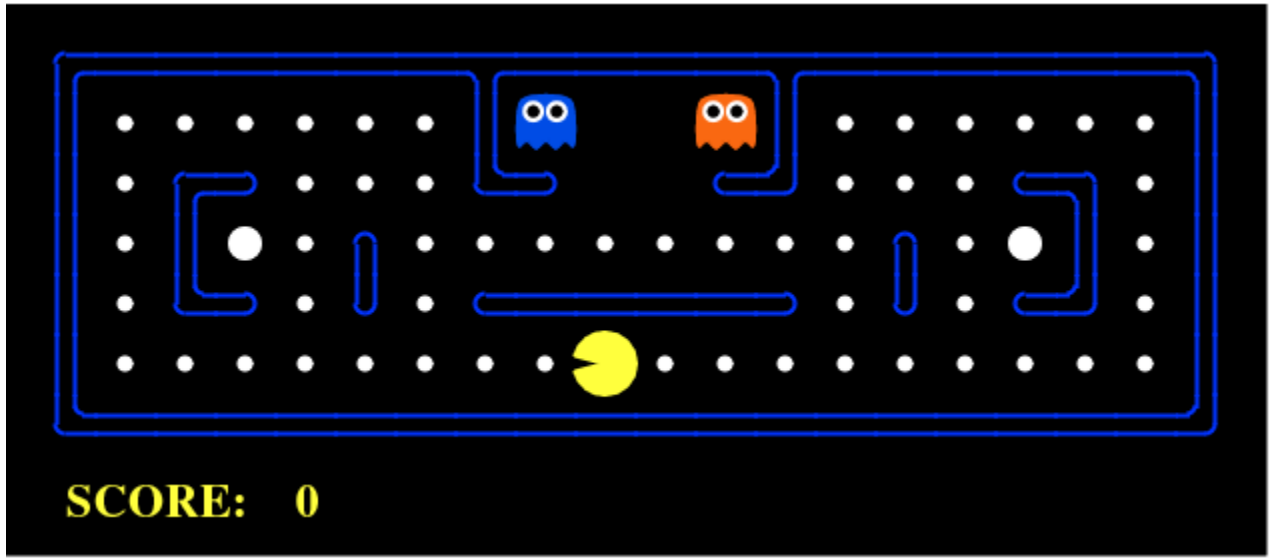
- Late Policy: At the instructor's mercy!
- Warning: There will be a lot of programming and math!

Make-up and Early Final Policy

- Midterm makeups will be scheduled by the instructor
- Final makeup will be scheduled during the official dates
- No makeup for the makeup exams

- Early final (e.g. if you are in an exchange program)
  - Will be counted instead of the final
  - No makeup for the early final
  - Needs to be communicated before week 10

Programming Homeworks



- Pacman projects from the Berkeley's AI class
- You will need to learn python and learn it fast!
- There will be autograders! If you dislike autograders then you should just audit this class ☺

Programming Homeworks Continued

- **Python:** You will need to learn python and learn it fast!
- **Format:** Assignment submissions must follow the required format as will be explained in the assignment documents.
- **Reports:** Programming homeworks have accompanying reports that will be worth either 1/3 or 2/3 of your grade
  - Code is 2/3, report is 1/3 OR
  - Report is 2/3, no code submission: You may use someone else's code if you mention it and write the report yourself.
- **Plagiarism and Cheating:** There will be no tolerance for plagiarism and cheating and severe cases will be met with disciplinary action.

What is considered cheating?

- Taking your someone else's code entirely or partially (stackoverflow counts too)?
  - Yes
- Talking about the solution implementation?
  - Yes
- Talking about the solution?
  - Gray-area. Some amount of talking is beneficial and encouraged but too much leads to very similar code.
- Non-specific python help?
  - No

What about Generative AI? – LLM use Policy

- You can use a large language model (LLM) such as ChatGPT to help you code or write reports
- We will not deduct points for using LLMs, but you are expected to cite your usage. Failing to cite LLM usage or other work will be treated as plagiarism
- Use them carefully!
  - LLMs are prone to hallucinations. They will occasionally output incorrect information while sounding very confident.
  - You need to know the subject to be able to spot these
  - You will need to "prompt engineering" to get good results
  - Any mistakes made by the LLM will be treated as your mistake

Ungraded Homework for Next Week

- Most of you should already have it but if you do not, install a Python environment!
- Some options
  - Direct Install + Notepad
  - Anaconda + Spyder IDE
  - Pycharm IDE
  - …
- What about Jupyter Notebooks et al.?
  - Untested with homeworks
  - Will only accept Python submissions

Tentative Topics

Subject	Details	Book 3e Chapter	Book 4e Chapter
Introduction	Definition and history of AI, Agents, Basic concepts	1,2	1,2
Search	Problem definition, Uninformed Search, Informed Search, Local Search, Adversarial Search	3,4,5	3,4,6
Constraint Satisfaction	Problem Definition, Solution Methods (search based and local search based)	6	5
Uncertainty	Probability Primer, Representing Uncertainty, Bayes Nets: Representation, Independence, Inference, Probabilistic Reasoning over time: Hidden Markov Models	13,14,15	12,13,14,15
Machine Learning	Introduction to ML, Performance Testing, Parameter Selection Methods, Several simple ML methods	18, 20	19,21
Decision Making	Markov Processes, Markov Decision Processes (MDPs), Solving MDPs, Reinforcement Learning (RL), RL Solution Methods	16,17,21	16,23
Logic (Optional)	Concepts of Logics, Knowledge Representation, Propositional Logic, First Order Logic	7,8,9	7,8,9

Warning: Current AI is fuelled by Deep Learning, but we will only conceptually talk about it. We also do not dive deep into machine learning.

Questions?