WELCOME TO CIS 32

Artificial Intelligence

This is the Spring 2006 Monday/Wednesday section.

MW 11.00 - 12.15pm 4411 Ingersoll

Professor Simon Parsons

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Class web page:
http://www.sci.brooklyn.cuny.edu/~parsons/courses/32-spring-2009/

- What is artificial intelligence?

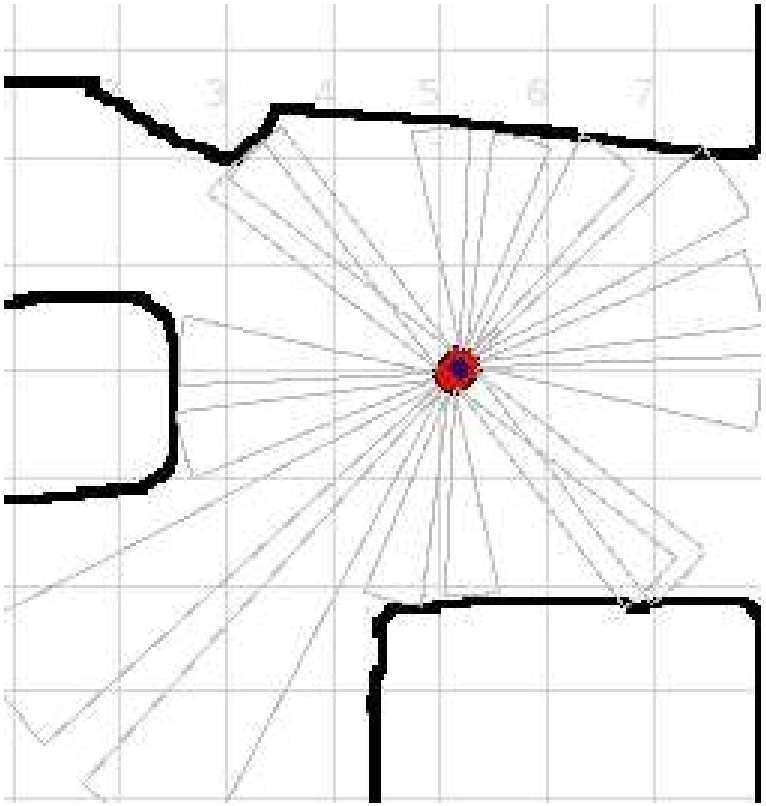
- This is what I think it is:

Course objectives

- To introduce you to some of the basic theory and practical techniques in artificial intelligence.
- In particular, this course will teach you about:
  - Reactive systems;
  - Search;
  - Knowledge representation;
  - Machine learning;
  - Planning; and
  - Software agents.
- You will also learn a bit about robotics.

- To give you experience of applying both the theory and practical techniques.
- In other words there are:
  - Homeworks; and
  - Projects.
- Homeworks will give you the chance to use the theory.
- Projects will give you the chance to use the practical techniques

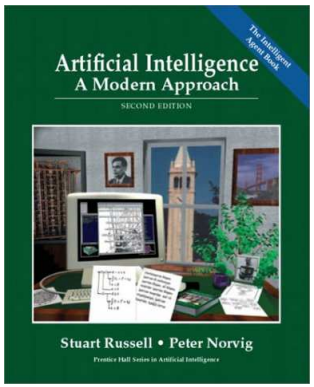
- Projects will involve robotics.
- Most will be in simulation, using Player/Stage:



- If everything works out, we'll use some of our fleet of robots as well:

Resources

- Lectures
- Textbook
  - Russell and Norvig, Artificial Intelligence, A modern approach



- Lecture notes
- Web page
  - *http://www.sci.brooklyn.cuny.edu/~parsons*

Office Hours

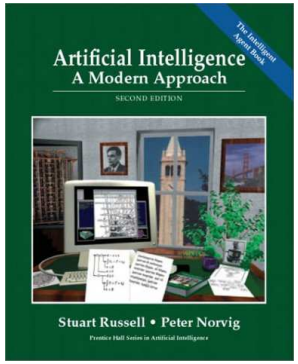
- There will be office hours after class on Monday and Wednesday 2–3 pm
- I will also be running virtual office hours, online (on AIM) under the screen name:

  profSimonParsons

  I'll be online Tuesday and Thursday nights, between 10 and 12pm if you want to ask questions, or just come say "hi". Outside of that time, drop me an email and I'll get back to you as quick as I can.

Textbook

Artificial intelligence: A modern approach (2nd Edition)
by Stuart Russell and Peter Norvig
Prentice Hall 2003
ISBN 0-13-790395-2 (hardbound).



available at college bookstore

Assessment

- Out of 100 points
- Homework assignments (30 points total)
- Exams (50 points total)
  - midterm (20 points)
  - final exam (30 points)
- Projects (20 points total)
- *note that the midterm date is tentatively set for 16th March but thisis subject to change!*

A word about homeworks

- Should be done on your own, as much as possible
- Get help from me, friends
  but you must acknowledge all help received by citing the names of those who helped you.
- This not only protects you from being accused of cheating, but also protects you in case your helper gives you misinformation

Homeworks: submission policy

- Homeworks are due on the day that they are due.
- Here are the rules — please know them well:
  1. Hardcopies must be brought to class on the due date and deposited in the homework box at the front of the classroom.
  2. If your hardcopy does not make it into the box, it will not be accepted and you will get 0 for the homework.
  3. If you must miss class, have a friend deposit your hardcopy.

- Exceptions and extensions are possible, primarily based on MEDICAL EMERGENCIES.
- Circumstances must be documented and suitable arrangements will be made.
- You must consult me via email on an individual basis.
- You must consult me **BEFORE** you need the exception/extension, not afterwards
- Submission details for projects will be posted on the class web page.

Regrade policy

- If you feel that there was an error in grading your homework, project or exam, then you need to write on a piece of paper a description of the error.
- STAPLE the paper to your homework, project or exam and leave it with me to be regraded.
- Know that I mark with a list of expectations for each homework assignment, project and exam problem, knowing where to take off points — so if your complaint is that too many points were taken off for one kind of mistake or another in your program, then generally those types of things will not change in a regrade.

- If there is a genuine error in the marking, like I thought something was missing, but it is really there, then you will likely get points restored.
- HOWEVER, a regrade means that the entire assignment or exam will be remarked, so be aware that your mark can go **DOWN** as well as up.
- Regrades take while to process, so be patient — if you need the work to study from, then make a copy of it before you turn it in for a regrade.

A word about lectures

- Brief lecture notes will be placed on the web page after every lecture.
- These will be linked to the syllabus page.
- But they are NOT A SUBSTITUTE FOR COMING TO CLASS.
- I know, I used to skip classes too.
- If you must miss a class, YOU are responsible for getting notes from someone who did come to class

- I will try to post lecture notes on the web before class BUT:
  - you learn better when you actually have to write things down yourself.
  - just reading along with my notes makes you sleepy.
  - everything I say is NOT in the lecture notes, but anything I say MIGHT be on an exam or in a homework, so you need to take notes on what I say
  - sometimes there are mistakes in the lecture notes which get caught during class; so you will only get the correct version if you come to class and take notes.

A word about exams

Exams are not a great way of assessing what people know, but they:

- Are the only way I know you are doing your own work.
- Are the only way YOU know you are doing your own work.
- Are not hard if you really know the material.
- Notice my weighting scheme for exams.
  1. midterm: 20%
  2. final exam: 30%

A word about feedback

- Homeworks, projects and exams let me know how you are doing.
- In a way, they let me know how I am doing, as a reflection of how you are doing.
- But, I welcome feedback from you:
  - Email;
  - IM;
  - Comments during calss or office hours; and
  - Anonymous written notes.

A word about academic integrity

- The work you submit for assessment should be completed ON YOUR OWN.
- You may get help from me, friends.
- You must acknowledge all help given.
- You must not download material from the web and submit it as your own work.
- You must not mail code or copy files.
- If someone asks you to do this, *JUST SAY NO!*.

Topics covered

We will cover most of the basic material in Russell and Norvig
The order will (roughly) be:

- Intelligent Agents (Chapter 2)
- Simple reactive agents
- Neural networks (Chapter 20)
- Problem solving agents (Chapter 3)
- Search techniques (Chapters 4, 6)
- Knowledge Representation (Chapter 10)
- Logic (Chapters 7–9)
- Planning (Chapter 11)

For full details see the class syllabus page.

About the instructor

- Undergrad: University of Cambridge, Engineering, class of 1988
- Grad school: University of London, PhD 1993
- Previous teaching:
  - Queen Mary & Westfield College, London, UK.
  - University of Liverpool, UK.
  - Universidad Politechnica de Catalunya, Barcelona, Spain.
  - Universidad Nacional del Sur, Bahia Blanca, Argentina.
  - Columbia University.
- Research interests:
  - Robotics;
  - Software agents and multi-agent systems; and
  - Rational action.

About you

- Please take out a piece of paper and write down...
  1. Your name.
  2. Your email address.
  3. Your major and where you are in your time at BC (ie junior, senior).
  4. Why you are taking this course.
  5. What you hope to get out of this course.
  6. One sentence about one fun thing you did over the break.
- ...and give it to me before you go.