

WELCOME TO CSC 84020

Autonomous Agents and Multi-Agent Systems

T 11.45am - 1.45pm 3306

Professor Simon Parsons

email: *parsons@sci.brooklyn.cuny.edu*

web: *http://www.sci.brooklyn.cuny.edu/~parsons*

office: 4220

Class web page:

http://www.sci.brooklyn.cuny.edu/~parsons/courses/840-fall-2003/

Course objectives

- To introduce you to some of the basic theory of autonomous agents and multi-agent systems.
- To give you experience of applying the theory.
- To introduce you to research techniques and research issues in the field of autonomous agents and multiagent systems.

Introduce you to some of the basic theory...

- In particular, this course will teach you about:
 - Intelligent agents
 - Deductive agents
 - Practical reasoning agents
 - Reactive and Hybrid Agents
 - Multiagent Interactions
 - Reaching Agreements
 - Communication
 - Working together
 - Methodologies
 - Logics for multiagent systems

Give you experience of applying the theory...

- In other words there is project work.
- The aim of the projects are to get you to use the theory we will cover in lectures to build real agents.
- The project work will involve programming Sony AIBO robots to play soccer.
- You will work on extending our existing code-base to deal with some basic agent functions.

Introduce you to research techniques and research issues...

- In addition to lecture time, most weeks we will have a small seminar as part of the class.
- We will use this time to discuss some of the seminal papers in the area.
- I will distribute copies of the paper (or pointers to an electronic version) one week.
- You will have to read the paper and answer questions on it before the next week.
- After the lecture that next week we will discuss the paper.
- You will be marked on your answers and your participation.

Resources

- Lectures
- Textbook
 - Wooldridge, An Introduction to MultiAgent Systems
- Lecture notes
- Web page
 - *<http://www.sci.brooklyn.cuny.edu/~parsons/courses/840-fall-2003/>*
- Me

Lectures

- Our timetabled sessions run from 11.45am to 1.45pm
- I plan to break this into two individual sessions of around 60 minutes.
- Typically the first will be a lecture and the second a seminar.
- We will take a break of around 5 minutes between these sessions.

Office Hours

- There is one hour of office hours a week.
- I will be in my office here at the Graduate Center 2pm – 3pm
- (From 1.45 to 2 I will be grabbing a sandwich in the cafeteria :-).
- Once the projects start I will be around more, and you will probably be able to find me throughout most of Tuesday.

Textbook

An Introduction to MultiAgent Systems

by Michael Wooldridge

Wiley, 2002

ISBN 0-471-49691-X (paperback)

available from Amazon.

Assessment

- Out of 100 points
- Homework assignments (20 points total)
- 2 exams (40 points total)
 - midterm (20 points)
 - final exam (20 points)
- 2 projects (30 points total)
- Seminar participation (10 points total)
- *note that the midterm date is tentatively set for 21st October but this is 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 Thursday 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.

Other submission details I

- Answers to questions on readings are due by email 1 hour before the class meets.
- Submission details for projects will be posted on the class web page.

Other submission details II

- 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.
- This holds for all kinds of submission.

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 to the wise

You all know that:

- You should save early and save often!
- Disk drives crash.
- Floppies have bad sectors
- Power supplies fail
- Monitors die
- Mice get trapped, and
- Paper print-outs are the best form of backup storage known to mankind.

So, you'll know that problems resulting from ignoring the above are not acceptable excuses for late submission of any work.

A word about lectures

- Brief lecture notes will be placed on the web page after every lecture
- 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
- If you miss class you will not get any credit for the seminar section of the class.

- I will usually 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 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: 20%

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, anonymous written notes, comments during office hours.

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 should not download material from the web and submit it as your own work.
- You should not mail code or copy files.
- If someone asks you to do this, *JUST SAY NO!*.

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 Politecnica de Catalunya, Barcelona, Spain.
 - Universidad Nacional del Sur, Bahia Blanca, Argentina.
 - Columbia University.
- research interests:
 - Software agents;
 - Rational action; and
 - Multi-agent systems.

About you.

- Please take out a piece of paper and write down...
 1. Your name.
 2. Which PhD program you are in.
 3. How far through the PhD program you are.
 4. Why you are taking this course.
 5. What you hope to get out of this course.
 6. What you know about agents.
 7. One sentence about one wonderful thing you did over the summer.
- ...and give it to me before you go.