CPSC 322
Introduction to Artificial Intelligence

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Who We Are

Your intrepid instructor is

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   office hours to be determined
         (but come on in anytime the
         door is open)

Who We Are

Your teaching assistants are

Rita Sharma

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What This Course Is About

- The logical foundations of Artificial Intelligence
- Reasoning and representation
- Search and problem solving
- Specializations within AI
    - Planning
    - Expert systems
    - Learning
    - Language processing
- There are lots of other things going on in AI, but we only have 13 weeks

Administrative Stuff

There's a course website under development at
http://www.cs.ubc.ca/~eiselt/cs322/

There will be two midterm exams
- Monday, October 4
- Monday, November 1

There will be N homework assignments (N < 50)

There will be a team-based term project (details in a few weeks)

Administrative Stuff

I don't know the final exam schedule yet

Late isn't an option for any of this stuff (except in cases of documentable dire emergency)

WebCT figures into all of this, but I'm not exactly sure how yet. I'll let you know when I find out.

What Is Artificial Intelligence?

First, there's disagreement about the name itself

artificial intelligence
machine intelligence
computational intelligence
intelligent systems

What Is Artificial Intelligence?

Now let's ask the experts:

[AI researchers] try to get machines to exhibit behavior that we call intelligent behavior when we observe it in human beings. Since the machine is almost always a computer, Artificial Intelligence is a branch of computer science.

James Slagle (1971)

What Is Artificial Intelligence?

Now let's ask the experts:

Artificial Intelligence is not the study of computers, but of intelligence in thought and action. Computers are its tools, because its theories are expressed as computer programs that enable machines to do things that would require intelligence if done by people...

Margaret Boden (1977)

What Is Artificial Intelligence?

Now let's ask the experts:

Artificial Intelligence is the study of ideas that enable computers to be intelligent. But what is intelligence? Is it the ability to reason? Is it the ability to acquire and apply knowledge?...Surely all of these abilities are part of what intelligence is, but they are not the whole of what can be said. A definition in the usual sense seems impossible...

Patrick Winston (1984)

What Is Artificial Intelligence?

Now let's ask the experts:

Artificial Intelligence is the study of mental faculties through the use of computational models...The fundamental working assumption, or "central dogma" of AI is this: What the brain does may be thought of at some level as a kind of computation.

Eugene Charniak and
Drew McDermott (1985)

What Is Artificial Intelligence?

Now let's ask the experts:

Artificial intelligence attempts to understand intelligent entities. Thus, one reason to study it is to learn more about ourselves. But unlike philosophy and psychology, which are also concerned with intelligence, AI strives to build intelligent entities...[which] are interesting and useful in their own right.

Stuart Russell and
Peter Norvig (1995)

What Is Artificial Intelligence?

Now let's ask the experts:

Computational intelligence is the study of the design of intelligent agents. An agent is something that acts in an environment--it does something….An intelligent agent is a system that acts intelligently: What it does is appropriate for its circumstances and its goal...

(but wait, there's more...)

What Is Artificial Intelligence?

Now let's ask the experts:

The central scientific goal of computational intelligence is to understand the principles that make intelligent behavior possible....The main hypothesis is that reasoning is computation. The central engineering goal is to specify methods for the design of useful, intelligent artifacts.

David Poole,
Alan Mackworth,
and Randy Goebel (1998)

What Is Artificial Intelligence?

Now let's ask the experts:

Artificial intelligence is the science of making computers behave the way they do in the movies.

unknown

Your First Homework Assignment

Figure out what intelligence is. While you're at it, how would you determine if some entity actually is intelligent? Prepare a brief write-up (nothing fancy) and hand it in at the beginning of the next class (Friday).

By the way, read Chapter 1.