CS640

Margrit Betke

1st lecture

Welcome to AI !

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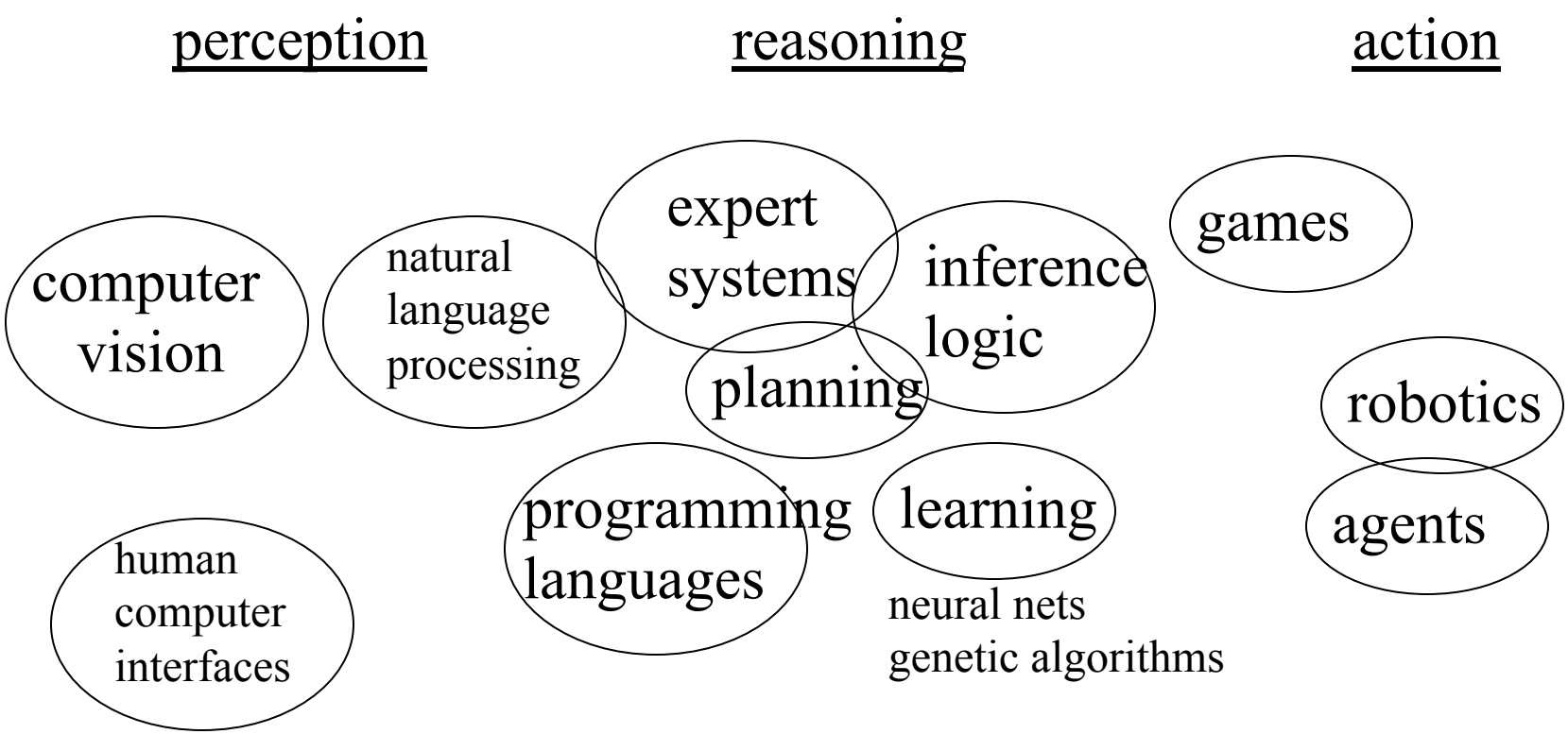
What is AI?

AI


perception
reasoning
action
computer vision
natural language processing
expert systems
inference logic
games
planning
robotics
agents
programming languages
learning
neural nets
genetic algorithms
human computer interfaces

What is AI?

AI studies

- how to build “intelligent computers”
- how to make machines that exhibit characteristics associated with intelligence in humans

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Machine that
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What is AI?

AI studies

- how to build "intelligent computers"
- how to make machines that exhibit characteristics associated with intelligence in humans

- think, reason
- solve problems
- learn
- understand language

Machine that
do things that
would require
intelligence if done
by humans

“Modern” View of AI:

AI studies computations for

- perception
- reasoning ← “classic AI”
- action

Agent-oriented View of AI:

An Agent

- is (semi-) autonomous
- does independent piece of problem solving
- is "situated" i.e. sensitive to its own environment
- belongs to society of agents and interacts with other agents

Intelligence emerges from society of agents

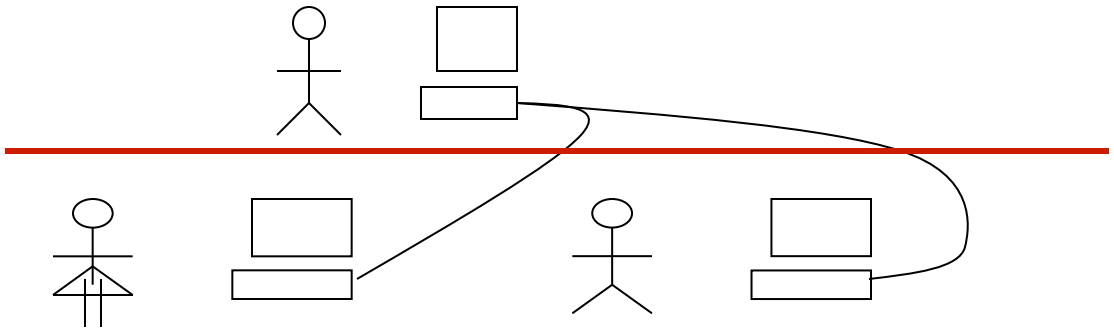
Alan Turing's Test = Imitation Game

"Can machines pass a behavior test for intelligence?"

Alan Turing's Test = Imitation Game

"Can machines pass a behavior test for intelligence?"

Person: "Are you the woman?"



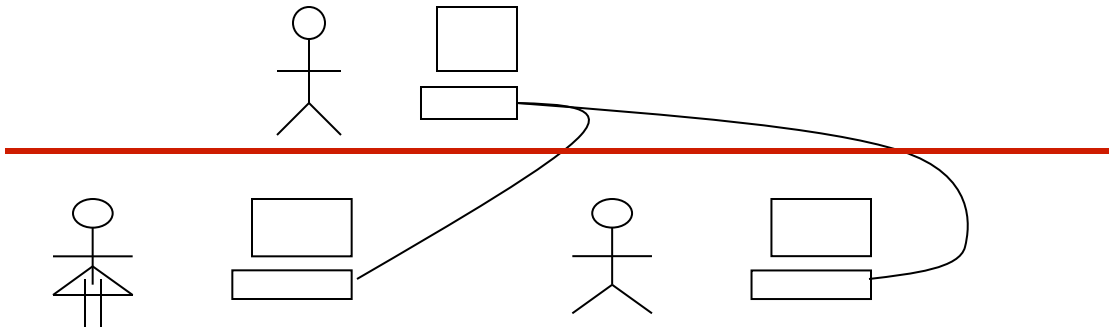
Can person tell the difference?

She: "I'm the woman." He: "I'm the woman."

Alan Turing's Test = Imitation Game

"Can machines pass a behavior test for intelligence?"

Person: "Are you the woman?"



Can person tell the difference?

She: "I'm the woman."

Phase 1: He: "I'm the woman."

Phase 2: Computer : "I'm the woman."

Turing's Prediction (1950):

In 2000, a computer will have a X% chance of deceiving a human interrogator that it was human in a Y min conversation.

What do you think is X? What Y?

Turing's Prediction (1950):

In 2000, a computer will have a 30% chance of deceiving a human interrogator that it was human in a 5 min conversation.

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Weizenbaum's Eliza (1966):

Interactive program that mimics a psychologist.

Goal: De-mystify computers

Results: lots of misunderstandings

concern for "social implications of computers"

Emacs version of Elzia in action:

M-x doctor

Web version:

https://www.cyberpsych.org/eliza/

Next: Going through course syllabus

http://www.cs.bu.edu/faculty/betke/cs640