

CS640

Margrit Betke

1st lecture

Welcome to AI !
Prof. Margrit Betke

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TF: Stan (Sha) Lai

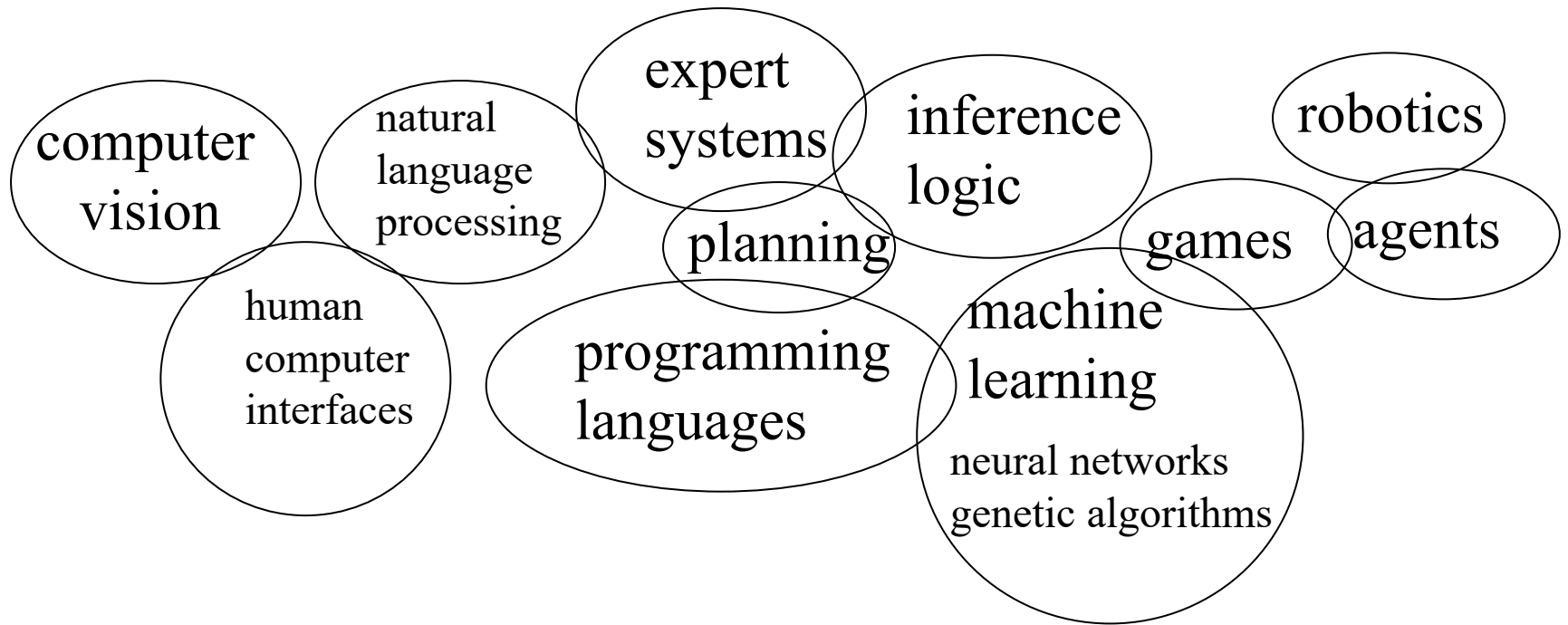
What is AI?

AI is

Perception

Reasoning

Action



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

“Can machines pass a behavior test for intelligence?”



Alan Turing's Test = Imitation Game

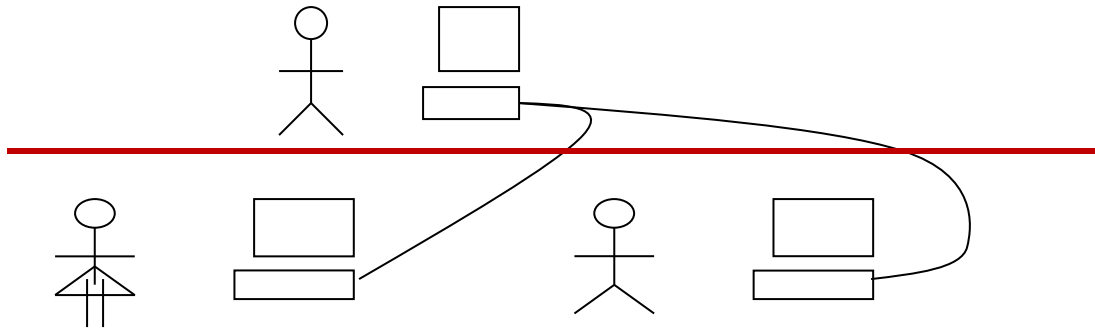
“Can machines pass a behavior test for intelligence?”



Alan Turing's Test = Imitation Game

“Can machines pass a behavior test for intelligence?”

Person: “Are you the woman?”



Can person tell
the difference?

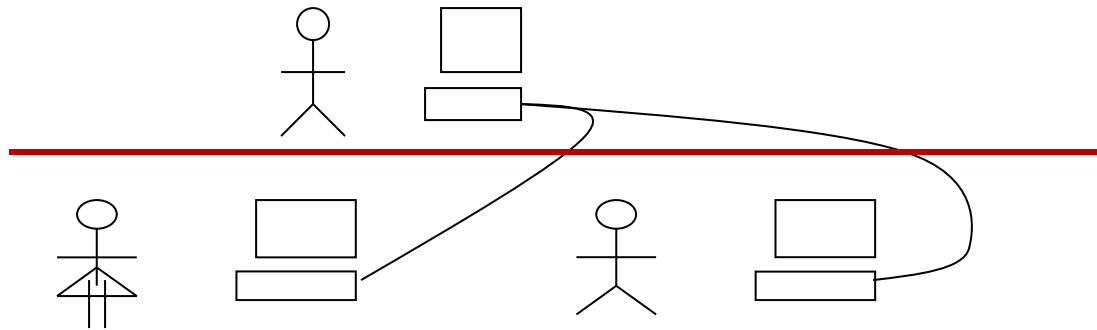
She: “I’m the woman.”

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 Eliza 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>

Then:

<http://www.cs.bu.edu/faculty/betke/cs640/open/AI-successes-lecture.html>