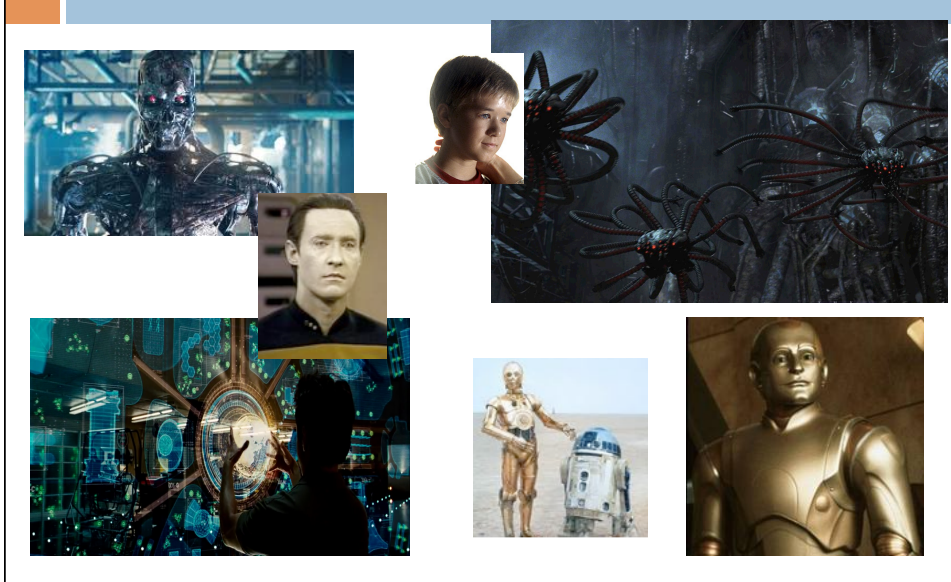


# AI :PHILOSOPHY & ETHICS

## Today

- Reading
  - AIMA Chapter 26
  
- Goals
  - Artificial Intelligence: hopes, fears, and reality
  - What is “artificial intelligence”?
  - Philosophy: Is it possible to create true AI?
  - Ethics: What are the ethical concerns in creating AI?

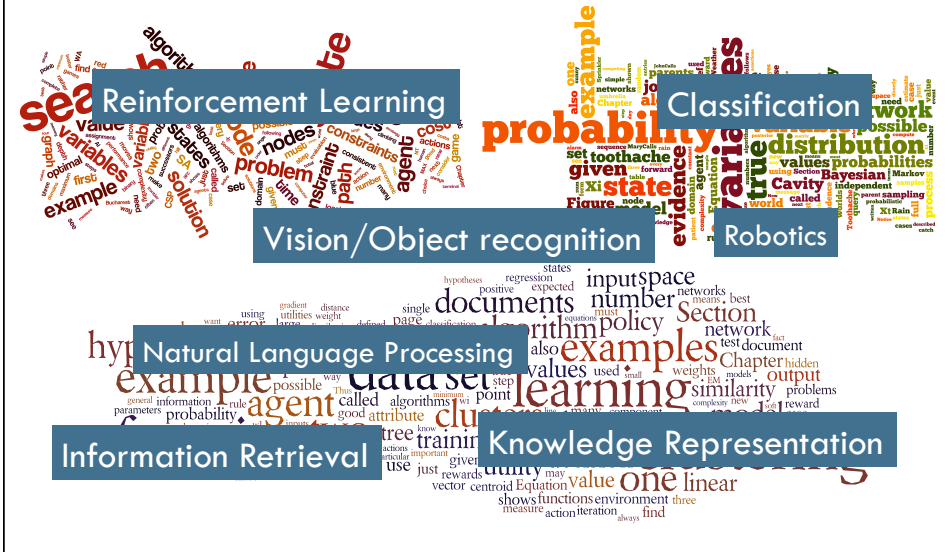
## Artificial Intelligence: hopes and fears



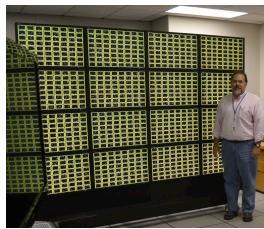
## Artificial Intelligence: reality



# Artificial Intelligence: reality



# Artificial Intelligence: reality



Artificial Brains



Robotics

A.L.I.C.E.



# Artificial Intelligence

What is “artificial intelligence”?

## A.I. according to CS 151

“it essentially comes down to a computer’s ability to approximate rational human thought”

“mimic how humans think and act”

“a machine that can perform any intellectual task as good as or better than a human can”

“emulate human behavior autonomously...indistinguishable from that with human intelligence...also be able to grow and expand and create new thoughts”

What is “artificial intelligence”?

“learn through experience and use the acquired knowledge to produce ‘human-like’ behavior in a variety of contexts”

“any automated system that was capable of creating understanding from information”

Machines that can “replace humans in performing work that involves common sense and basic human knowledge”

“software capable of taking in its environment...and deciding on an action that will have the most favorable result...ability for software to use past successes or failures to modify future decisions”

## A.I. according to CS 151

“about a 1% chance”

“fairly likely”

“has already been created”

“reasonable chance, say around 40%”

“not likely”

“still very far away”

### How likely are you to see the creation of true artificial intelligence?

“Yes...I will see this type of intelligence in my lifetime...”

“I HIGHLY doubt I will see a true AI within my lifetime”

“I’d think we’ll get some pretty exciting results on the more basic stuff”

“we will probably see it in specific domains but not any type of general-purpose sentence”

## Weak AI vs. Strong AI

- Weak Artificial Intelligence
  - It is possible to create machines that act intelligent. Beyond that, who cares?
  - Simulated intelligence
  
- Strong Artificial Intelligence
  - Machines that do so are in fact intelligent
  - Real intelligence

## Weak AI vs. Strong AI

“Surely, it may be said, however closely a computer might model the outward manifestations of human thought processes, the machine would not really be thinking, since that involves being able to have subjective, inner processes.”

“The question of whether *Machines Can Think*...is about as relevant as the question of whether *Submarines Can Swim*” -Dijkstra

“Not until a machine could write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols, could we agree that machine equals brain – that is, not only write it but know that it had written it” – G. Jefferson (1949)

## Chinese Room (Searle 1980)



## Ethics of Artificial Intelligence

- What are the ethical concerns surrounding artificial intelligence?
  - What are the concerns or issues highlighted in the story?
  - To what extent are these issues already present in today's society?
  - What, if anything, should be done to address or prevent these concerns?