INTRODUCTION TO

Artificial Intelligence

Computers versus humans

- A computer can do some things better than a human can
  - Adding a thousand four-digit numbers
  - Drawing complex, 3D images
  - Store and retrieve massive amounts of data
- However, there are things humans can do much better.

Computer or human?

- Which of the following occupations could (or should) be performed by computers?
  - Postman
  - Bookstore clerk
  - Librarian
  - Doctor
  - Lawyer
  - Judge
  - Professor

Thinking Machines

Artificial intelligence (AI)

The study of computer systems that attempt to model and apply the intelligence of the human mind

Of course, first we have to understand why we use the term "intelligence" in regard to humans.

- What defines "intelligence"?
- Why is it that we assume humans are intelligent?
- Are monkeys intelligent? Dogs? Ants? Pine trees?

Early History

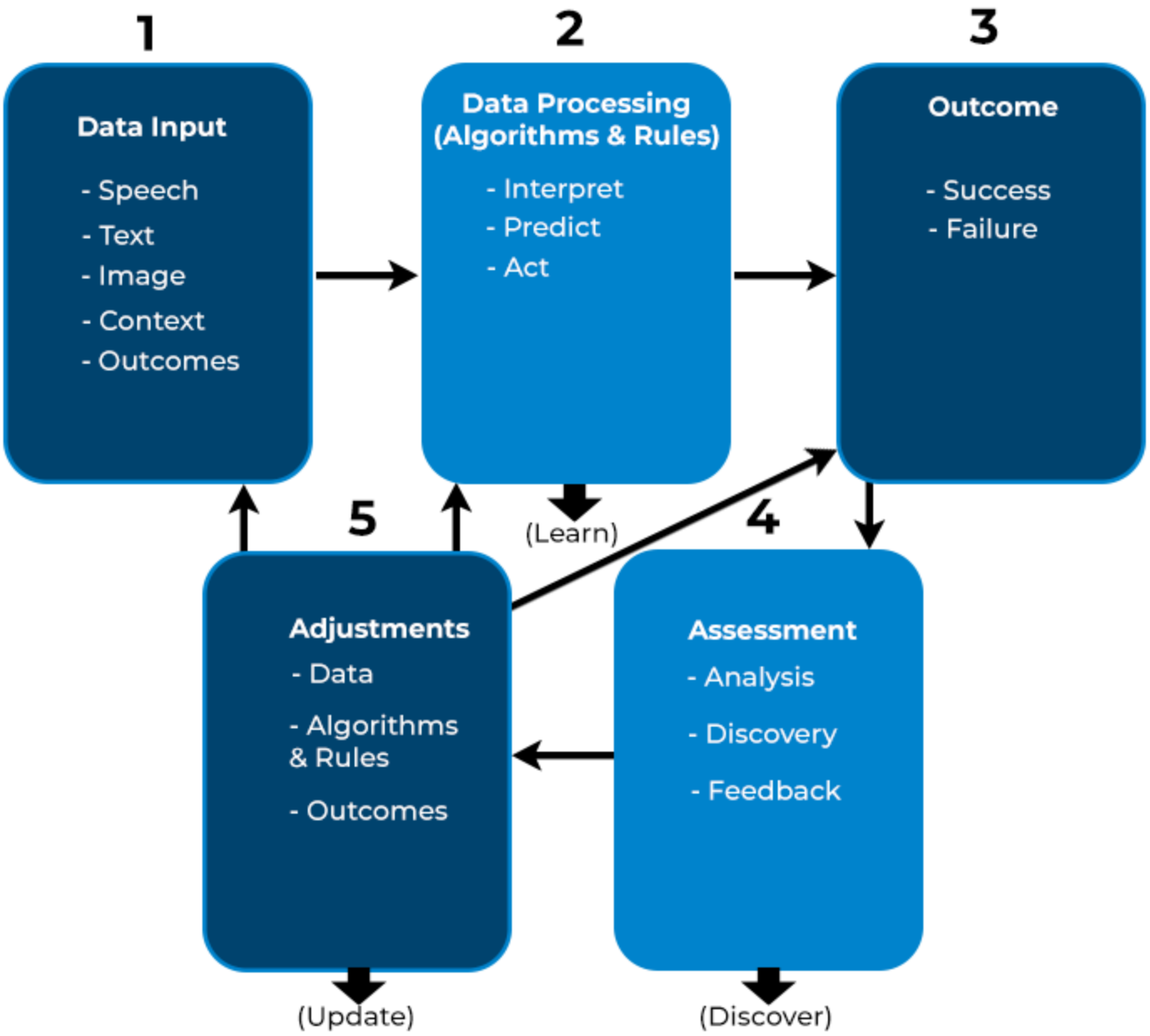
- In 1950 English mathematician Alan Turing wrote a landmark paper titled "Computing Machinery and Intelligence" that asked the question: "Can machines think?"
- Further work came out of a 1956 workshop at Dartmouth sponsored by John McCarthy. In the proposal for that workshop, he coined the phrase a "study of artificial intelligence"

Goals of Artificial Intelligence

- Develop problem-solving ability. ...
- Incorporate knowledge representation. ...
- Facilitate planning. ...
- Allow continuous learning. ...
- Encourage social Intelligence. ...
- Promote creativity. ...
- Achieve general intelligence. ...
- Promote synergy between humans and AI.

TOOLBOX™

HOW AI WORKS



The Turing Test

Turing test

A test to empirically determine whether a computer has achieved intelligence

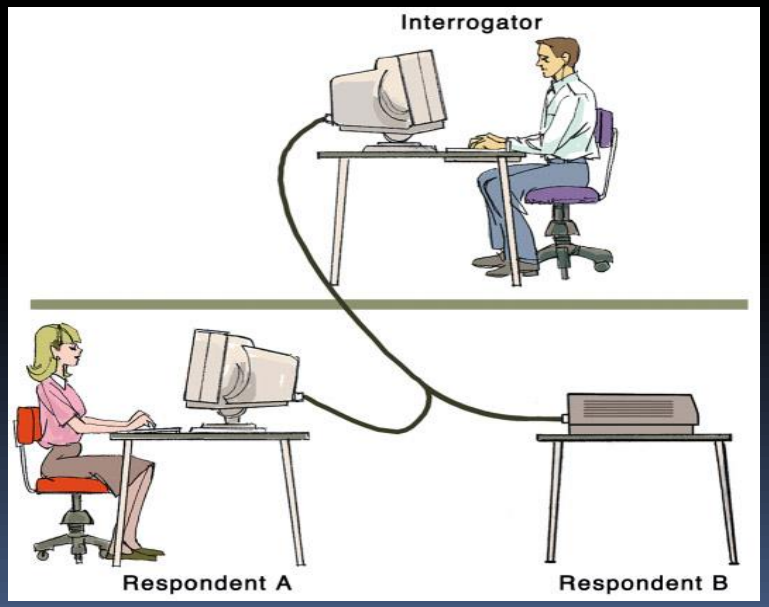


Figure 13.2
In a Turing test, the interrogator must determine which respondent is the computer and which is the human

Thank You