

Lecture Overview

- What is Artificial Intelligence?
- Agents acting in an environment

Learning objectives: at the end of the class, you should be able to

- describe what an intelligent agent is
- identify the goals of Artificial Intelligence
- classify the inputs and the outputs of various agents

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 - ▶ it makes appropriate choices given perceptual and computational limitations

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- **Organisations** Microsoft, Al Qaeda, Government of Canada, UBC, CS Dept,...

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Can a book or article *do* things?
Convince? Argue? Inspire? Cause people to act differently?

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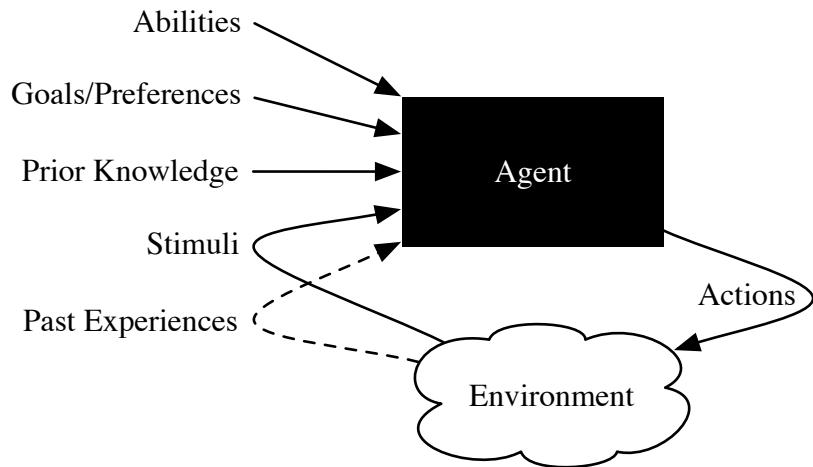
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- **Engineering goal:** design useful, intelligent artifacts.
- Analogy between studying flying machines and thinking machines.

Agents acting in an environment



Inputs to an agent

- **Abilities** — the set of possible actions it can perform
- **Goals/Preferences** — what it wants, its desires, its values,...
- **Prior Knowledge** — what it comes into being knowing, what it doesn't get from experience,...
- **History** of stimuli
 - ▶ (current) **stimuli** — what it receives from environment now (observations, percepts)
 - ▶ **past experiences** — what it has received in the past

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- **stimuli:** vision, laser, GPS. . .
- **past experiences:** streetmaps, how breaking, steering affects direction..

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- **past experiences:** effect of steering, slipperiness, how people move, . . .

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- **past experiences:** prior test results, effects of teaching strategies, . . .

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- **past experiences:** when people come and go, who likes what temperature

Example agent: medical doctor

- abilities:
- goals:
- prior knowledge:
- stimuli:
- past experiences:

Example agent: Apple Inc.

- abilities:
- goals:
- prior knowledge:
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Other Agents

- user interface
- bee
- smart home
- ...

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