

CS343

Artificial Intelligence

Prof: Peter Stone

Department of Computer Sciences
The University of Texas at Austin

Good Afternoon, Colleagues

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Are there any questions?

Logistics

- Questions about the syllabus?

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- Class registration

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- Problems with the assignment?

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- Computer-game-playing agent

Not Intelligent Agents

- Thermostat
- Telephone
- Answering machine
- Pencil
- Java object

Your Examples

- Cooking agent (*6!),

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- RFID door lock, vaccine nanobot, human exam taker, super hero

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- known vs. unknown

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- **Actions:** Wave, Stand, Clap
- **Observations:** colors, reward
- **Goal:** Find an optimal *policy*
 - Way of selecting actions that gets you the most reward

How did you do it?

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- What is your policy?
- What does the world look like?

Formalizing the Activity

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- $\mathcal{O} = \{\text{Blue, Red, Green, Black, } \dots\}$
- Rewards in \mathbb{R}
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$$o_0, a_0, r_0, o_1, a_1, r_1, o_2, \dots$$

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Unknowns:

- $\mathcal{S} = 4 \times 3$ grid
- $\mathcal{R} : \mathcal{S} \times \mathcal{A} \mapsto \mathbb{R}$
- $\mathcal{P} = \mathcal{S} \mapsto \mathcal{O}$
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Self-Introductions

- Speak loudly

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- Name, year, major

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- Name, year, major
- At least one other thing about yourself

Next week: Search

- Textbook readings
- Responses both Monday and Wednesday
- Python tutorial due