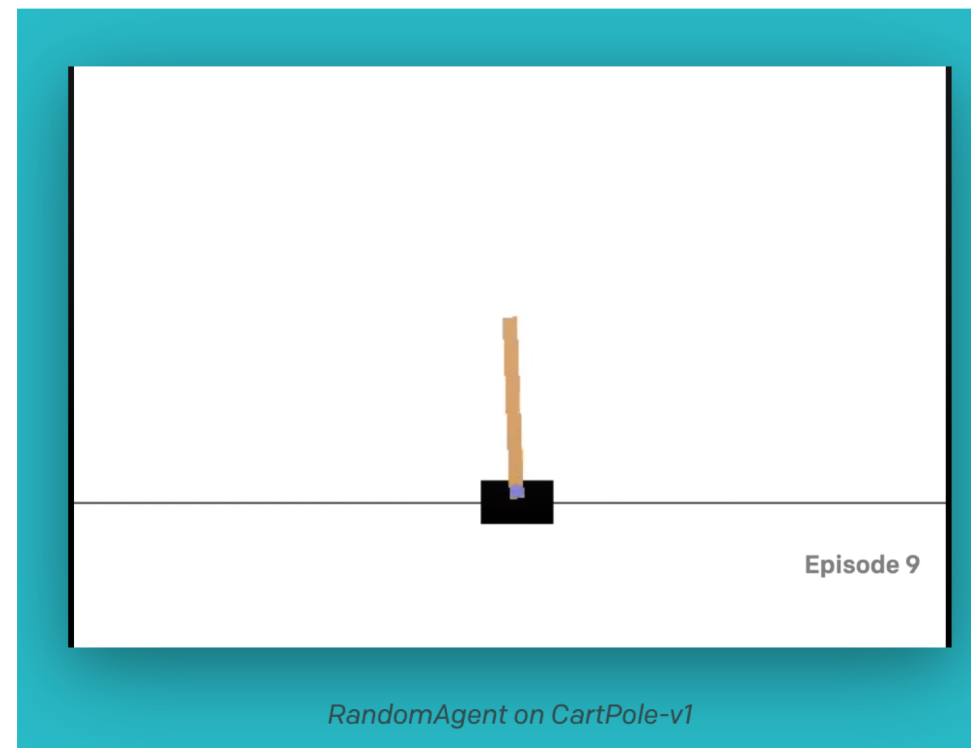
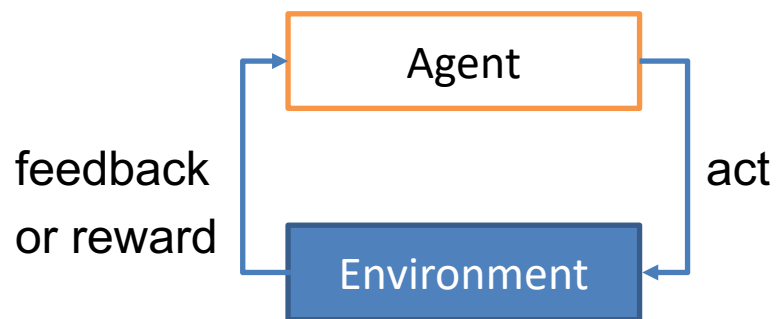


Social Ability

Nirav Ajmeri

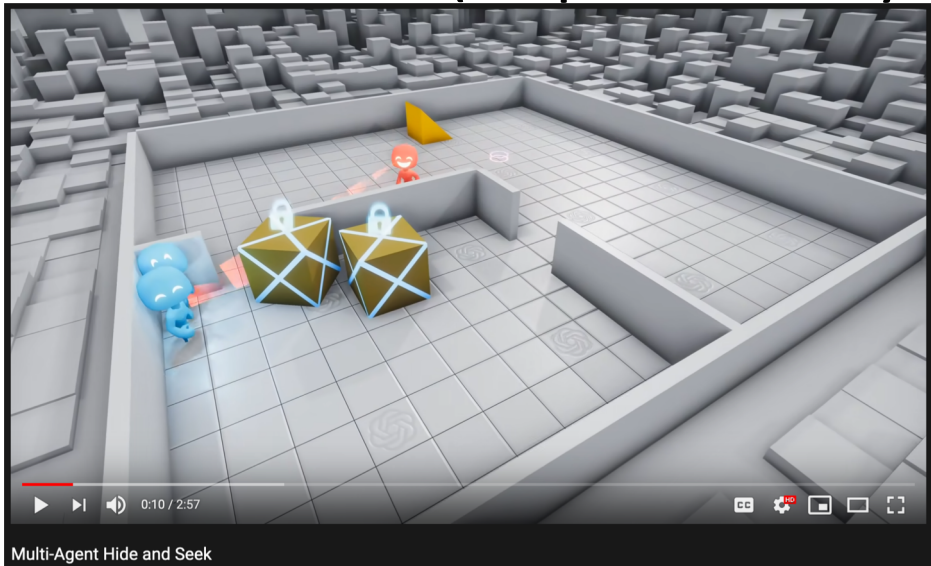
bristol.ac.uk

Single Agent: Sense – Decide – Act Loop



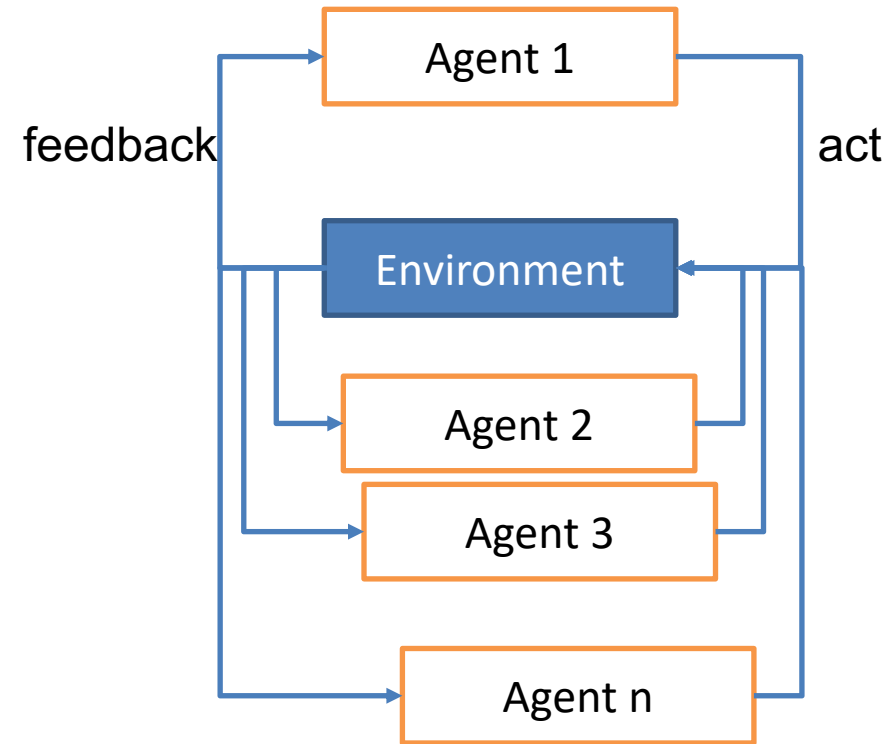
<https://gym.openai.com/envs/CartPole-v1/>

- Pause this video here and watch the Open AI Hide and Seek video (<https://www.youtube.com/watch?v=kopoLzvh5jY>)



- Think of how Sense-Decide-Act loop for multiple agents would look like?

Multiagent: Sense – Decide – Act Loop?



- Cooperation is working together as a team to achieve a shared goal
- Often prompted either by the fact that no one agent can achieve the goal alone, or that cooperation will obtain a better result (e.g., get result faster)
- *Treasure hunt*
 - Cooperate and explore different areas

- Coordination is managing the interdependencies between activities
- For example, if there is a non-sharable resource that you want to use and I want to use, then we need to coordinate
- *Car pooling*
 - Coordinate timing

- Negotiation is the ability to reach agreements on matters of common interest
- Typically involves offer and counter-offer, with compromises made by participants
- *Buy-sell on Marketplace*
 - *Negotiate price*
- *One shared TV; different preferences*
 - *You watch today, I watch tomorrow*

Thank you