

CS344M

Autonomous Multiagent Systems

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Good Afternoon, Colleagues

Are there any questions?

Logistics

- Next week's readings up

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- Progress reports due next week

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- Code bases updated – final project notes pages

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- Projects: most happy/execited about their projects
- Want a machine learning tutorial

T-test vs. Paired T-test

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- Who's better at video games in general?

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- Can you run multiple times until you get a significant result?

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- Is the number of wins/ties/losses different vs. UvA than in self play?

Mixed strategy equilibrium

		Player 2	
		Action 1	Action 2
Player 1	Action 1	3,7	2,2
	Action 2	6,5	1,7

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- What if player 2 picks action 1 $\frac{3}{4}$ of the time?
- What if player 2 picks action 1 $\frac{1}{4}$ of the time?
- Player 1 must be indifferent between actions 1 and 2
- Player 2 must be indifferent between actions 1 and 2

Correlated Equilibria

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Sometimes mixing isn't enough: Bach/Stravinsky

		Wife	
		S	B
Me	S	2, 1	0, 0
	B	0, 0	1, 2

Want only S,S or B,B - 50% each

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- What are the Nash equilibria?
- How to guarantee that we meet?

Incomplete Information Games

- We each get one of 3 cards: 1,2,3
- If we both fold, we both lose nothing
- If one raises and one folds, the raiser gets 1
- If both raise, the one with the higher card gets 5
- Zero sum

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		R	F
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With more numbers and/or different payoffs, bluffing can be a part of the Nash Equilibrium

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- What can't game theory simulate?