Good Afternoon, Colleagues

Are there any questions?
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- Coordination graphs
Another WICS Event

According to the Bureau of Labor Statistics, 70% of all available positions are NEVER advertised. That means most people focus 80% to 90% of their time competing for and looking at only 30% of the jobs.

UNCOVERING HIDDEN JOB LEADS Presented by Jacqueline Ford - previously a Recruiter for Motorola & Trilogy

DATE: Tuesday, 3/2 OR Wednesday, 3/3
TIME: 7p - 8:30p
LOCATION: PAI 3.14
ADMISSION: $5.00

Sponsored by Women in Computer Science
Logistics

- Faculty recruiting talk at 4pm today
Logistics

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- Final project: Beware of proposing learning-related things!
Class discussion

Sarmad Fayyaz on learning during a game
Flexible Positions and Roles

- Slides from CMUnited-98
Coordination Graphs

- $n$ agents, each choose an action $A_i$
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- $A = A_1 \times \ldots \times A_n$
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- $R_i(A) \mapsto \mathbb{R}$
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• $A = A_1 \times \ldots \times A_n$

• $R_i(A) \mapsto \mathbb{R}$

• Coordination problem: $R_1 = \ldots = R_n = R$
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• Coordination problem: $R_1 = \ldots = R_n = R$

• Nash equilibrium: no agent could do better given what others are doing.
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- $n$ agents, each choose an action $A_i$

- $A = A_1 \times \ldots \times A_n$

- $R_i(A) \mapsto \mathbb{R}$

- Coordination problem: $R_1 = \ldots = R_n = R$

- Nash equilibrium: no agent could do better given what others are doing.

- May be more than one (chicken)
Example from the paper

- Understand the rule syntax
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- Form the coordination graph
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- First eliminate rules based on context
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- What does it mean for $G_3$ to collect all relevant rules?
Example from the paper

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- Form the coordination graph

- First eliminate rules based on context

- What does it mean for $G_3$ to collect all relevant rules?

- What does it mean for $G_3$ to maximize over all actions of $a_1$ and $a_2$?
Example from the paper

- Understand the rule syntax
- Form the coordination graph
- First eliminate rules based on context
- What does it mean for $G_3$ to collect all relevant rules?
- What does it mean for $G_3$ to maximize over all actions of $a_1$ and $a_2$?
- How are the results propagated back?
Example from the paper

• Understand the rule syntax

• Form the coordination graph

• First eliminate rules based on context

• What does it mean for $G_3$ to collect all relevant rules?

• What does it mean for $G_3$ to maximize over all actions of $a_1$ and $a_2$?

• How are the results propagated back?

• Let’s try again with $G_2$ eliminated first
Application to soccer

- Make the world discrete by assigning roles, using high-level predicates
Application to soccer

- Make the world discrete by assigning roles, using high-level predicates
- Assume global state information
Application to soccer

- Make the world discrete by assigning roles, using high-level predicates
- Assume global state information
- Finds pass sequences and starts players moving ahead of time.

Peter Stone
Application to soccer

• Make the world discrete by assigning roles, using high-level predicates

• Assume global state information

• Finds pass sequences and starts players moving ahead of time.

• Note the results: with and without coordination.