CS344M
Autonomous Multiagent Systems

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Good Afternoon, Colleagues

Are there any questions?

Logistics

- Executable teams due next Tuesday

- Final reports due on Thursday

- Final tournament: Monday, December 17th, 2pm, BUR 136

Keepaway

- Keepaway videos

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- Slides

Keepaway Discussion

- Could you use learned policies for full soccer game?

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- Other representations for state that foster generalization?

Genetic Algorithms

- Keep a population of individuals

- Each generation:

  - Evaluate their fitness
  - Throw out the bad ones
  - Change the good ones randomly (crossover, mutation)
  - Repeat

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The fitness function matters

- Playing against top-notch competition -> no info

- Playing against a single foe -> too brittle

Rosin and Belew

- Co-evolve 2 populations: Evolve software and test suites

- "New genotypes arise to defeat old ones"
  - Why not self-play?

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- Three techniques to help:
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- Tests on Nim and 3D Tic Tac Toe

- Stop when perfect play is reached

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- Other approaches to competitive co-evolution?