CS344M
Autonomous Multiagent Systems

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Good Afternoon, Colleagues

Are there any questions?

Logistics

- Project proposal questions?

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- FAI talk on Friday at 11, ACES 2.402
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- Class midterm evaluation survey due next Thursday

Principles

- Try to avoid functional decomposition
- Simple agents (small, forgetful, local)
- Decentralized control
- System performance from interactions of many
- Diversity important: randomness, repulsion
- Embrace risk (expendability) and redundancy
- Agents should be able to share information
- Mix planning with execution
- Provide an "entropy leak"

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- ...Sort a dynamic set of items
  - Each item has a key and a rank
  - Goal: keep the ranks in ascending order of the keys
- ...Create ant cemeteries
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  - (it doesn't matter where)

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- ...Do network routing
  - build routing table mapping destinations to links at each node
  - Goal: minimal transit time for packets

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- Character animation (Reynolds, Star Wars)

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- In nature, is it the individual, the colony, or the gene?
- How does "altruism" arise?
- What does this mean about agent-based systems?
  - Should we create self-interested ants?
  - Or do we need to give them a global objective function?