**CS 188: Artificial Intelligence**  
**Fall 2010**

Lecture 26: Conclusion  
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**Pacman Contest**

- **Challenges:**
  - Long term strategy
  - Multiple agents
  - Adversarial utilities
  - Uncertainty about other agents’ positions, plans, etc.
Pacman Contest

50 teams

Creative names: ConditionalIndependenceDay, NoPlaceLike127001, …

Creative methods: tracking, learning, search…

50 qualifiers (a third of the class!)

XYZ achievements

Amazing work by everyone!

Final Tournament

Final matches: now!

Finalists
For Third Place

For First / Second Place
…and Congratulations to All!

- Amazing work by everyone
  - Record number of entries (60 teams)
  - Record number of qualifications (45!)
  - Lots of mutual support on newsgroup / office hours…

- You should all be proud of what you’ve accomplished!

Example: Starcraft
What is Starcraft?

- Adversarial
- Long Horizon
- Partially Observable
- Realtime
- Concurrent
- ...

No single algorithm (e.g. minimax) will solve it off-the-shelf

Why is Starcraft Hard?
The Berkeley Overmind

- Search: path planning
- Minimax: targeting
- Learning: micro control
- Inference: tracking units
- Scheduling: resource management
- Hierarchical control

http://overmind.eecs.berkeley.edu

Search for Pathing
Minimax for Targeting

RL for Micro Control
Inference / VPI / Scouting

[Scouting, Cloaking]

AIIDE 2010 Competition
Pacman: Beyond Simulation?

Students at Colorado University: http://pacman.elstonj.com

[DEMO]

Bugman?

- AI = Animal Intelligence?
  - Wim van Eck at Leiden University
  - Pacman controlled by a human
  - Ghosts controlled by crickets
  - Vibrations drive crickets toward or away from Pacman's location

[DEMO]

http://pong.hku.nl/~wim/bugman.htm
Where to go next?

- Congratulations, you’ve seen the basics of modern AI
  - … and done some amazing work putting it to use!

- How to continue:
  - Machine learning: cs281a / cs281b
  - Cognitive modeling: cog sci 131
  - Vision: cs280
  - Robotics: cs287
  - NLP: cs288
  - Decision making: cs289
  - … and more; ask if you’re interested

- Next term:
  - cs194 (Starcraft, not yet in telebears)
  - cs288 (focus on MT for SP11)
  - maybe one other grad class TBA (cs289?)

That’s It!

- Help us out with some course evaluations

- Have a good break, and always maximize your expected utilities!