The Most Famous Chart in CS Education
Symposium Topic: Interpretations

Recruitment
- Short-term interest
  - “Computers are cool! I can use them!”
- Long-term interest
  - “Computers are cool! I can make my own applications!”

Retention
- “Computers are cool! I can create new technologies!”
Meta-Themes

- Make computing more fun
- Encourage creativity
- Make computing more relevant (real-world applications, social relevance)
- Allow students to “show off” (contests, exhibitions)
- Work in groups
- Integrate ideas across curriculum
- Encourage self-directedness, extra credit
Robotics Themes

- Using robotics to...
  - attract interest to computing
  - increase participation in early CS classes
  - design an entire curriculum
- Many individual cool projects
Non-Robotics Themes

- AI-centered CS 0 / CS 1 / curriculum
  - Variations: robotics-centered, games-centered, computational economics-centered...
  - Nifty individual assignments
- “Tracks” within curricula
- Integration of research and education
- Interdisciplinary courses and curricula
- Outreach programs
Invited Talks

- **Illah Nourbakhsh**: Robotics applications to increase interest in CS
- **Peter Norvig**: Use AI as testbeds for exploration
- **Vincent Conitzer**: Computational economics in CS education
- **Phil Levis**: Teaching with sensor nodes
Nifty Robots

Dance

QuickTime™ and a Motion JPEG OpenDML decompressor are needed to see this picture.
Other Nifty Stuff

QuickTime™ and a decompressor are needed to see this picture.
Issues: Real-World Connections

- How do we bring real-world applications into the curriculum?
- ...while maintaining focus on the fundamentals?
- How do we help students to perceive computing as relevant and socially meaningful?
Issues: Risks

- Do we risk creating an overly "technology user" view of computing?
- Do we risk focusing too narrowly on robotics or AI?
- How do we move from short-term "this is cool" to long-term interest in applying and creating new technology?
Issues: Pragmatics

- Dealing with resistance to change, resistance to AI/robotics focus
- Dealing with resource limitations
  - Insufficient or undermotivated faculty
  - Insufficient equipment or funding
  - Insufficient TA resources for grading and reinforcement
AI and robotics have enormous potential to excite and motivate students.

Lots of faculty enthusiasm for improving curriculum and education.

Lots of great ideas and willingness to share them!
• AI Education Colloquium
• AI Video Competition: Educational Track

Teaching AI? Robotics? Learning?

Submit! (videos: 4/4; colloquium: 4/7)

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