

**CS395T**  
**Reinforcement Learning:**  
**Theory and Practice**  
**Fall 2004**

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Week 11a: Tuesday, November 9th

# Good Afternoon Colleagues

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- Are there any questions?

# Options

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- They don't address **what** temporal abstraction to use — they just show how it can fit into the RL formalism
  - Why couldn't it before?
- Markov vs. Semi-markov:
  - states, actions
  - mapping from  $(s, a)$  to expected discounted reward
  - well-defined distribution of next state, transit time

# Student-led Discussion

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- Alex on discovering options

# Discussion Points

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- Why cliffs on p. 23 ?
- Why lines cross on p. 27?
- Does it ever make sense to have a probabilistic beta?
- What about non-terminating options?
- Conclusion: "If the temporally extended actions are modeled as options, then perhaps the models of the options correspond well to these perceptions."