# CS395T Reinforcement Learning: Theory and Practice Fall 2004

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Week11b: Thursday, November 11th

#### **Good Afternoon Colleagues**

• Are there any questions?



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- Pending questions:
  - Weaknesses of subgoal discovery as presented.
  - Why can state abstraction prevent acheiving planned values?





 Tom Dietterich visiting next Friday: "Three Challenges for Machine Learning Reserch" 3pm, ACES 2.302





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- Strives for recursive optimality— local optimality for each subtask
- Enables reuse of subtasks
- Enables useful state abstraction



#### Some details

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- How does equation (2) relate to flat Q?



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- What does  $C_i^{\pi}(s, a)$  mean?(Dietterich slides)
- How does equation (2) relate to flat Q?
- The parameterization is deceptive, but there IS reuse.



• Jon on safe abstraction



• What does MAXQ-Q buy you over flat?



- What does MAXQ-Q buy you over flat?
- What does polling buy you over flat?



- What does MAXQ-Q buy you over flat?
- What does polling buy you over flat?
- Would learning the subtasks from the bottom up help?



- What does MAXQ-Q buy you over flat?
- What does polling buy you over flat?
- Would learning the subtasks from the bottom up help?

