

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

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Week5b: Thursday, September 30th

# Good Afternoon Colleagues

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- Pending questions:
  - Blackjack: why not DP?
  - Figure 5.2: why flat horizontally?
  - Does MC require Markov assumption?
  - Off-policy learning: why just from the tails?
  - What's up with those equations after (5.3)?

# Advertisements

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- Pazzani talk at 2pm today
- Teller talk at 11am tomorrow

# Relationship to DP

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  - Can learn from actual or simulated experience

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  - Doesn't need **any** experience
- MC expense independent of number of states
- No bootstrapping in MC
  - Not harmed by Markov violations

# Blackjack

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- Fig. 5.2 (114): Why values mainly independent of dealer showing?

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- As true in Fig. 5.5? (121)
- Possible explanation for notch in usable ace policy?
- Why not just use DP?

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  - Epsilon-soft vs. epsilon-greedy (122)

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- Exploring starts vs. stochastic policies
  - Does ES converge?(Tsitsiklis paper)
  - Epsilon-soft vs. epsilon-greedy (122)
  - Why consider off-policy methods?

# Learning off policy

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- Off policy equations (5.3 and next 2: 125)

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- Why only learn from tail in Fig. 5.7?

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- Off policy equations (5.3 and next 2: 125)
- Why only learn from tail in Fig. 5.7?
- Off policy possible with policy search (evolution)?