# CS394R Reinforcement Learning: Theory and Practice

**Amy Zhang and Peter Stone** 

Departments of ECE and CS
The University of Texas at Austin

### **Good Morning Colleagues**

• Are there any (logistics) questions?

Project proposals!

- Project proposals!
- Practice midterm available

- Project proposals!
- Practice midterm available
- Midterm after spring break

- Project proposals!
- Practice midterm available
- Midterm after spring break
  - 1 page of notes turn it in
  - No internet searches or prior code
  - Calculators or code written on the fly is OK

- Project proposals!
- Practice midterm available
- Midterm after spring break
  - 1 page of notes turn it in
  - No internet searches or prior code
  - Calculators or code written on the fly is OK
- Next readings

- Project proposals!
- Practice midterm available
- Midterm after spring break
  - 1 page of notes turn it in
  - No internet searches or prior code
  - Calculators or code written on the fly is OK
- Next readings
  - Applications

Introduction to the Aibo

- Introduction to the Aibo
- Motor commands sent at 10Hz
  - PID control choose a set point

- Introduction to the Aibo
- Motor commands sent at 10Hz
  - PID control choose a set point
- Goal: get it to learn how to walk fast
  - Learn only on the real robot

- Introduction to the Aibo
- Motor commands sent at 10Hz
  - PID control choose a set point
- Goal: get it to learn how to walk fast
  - Learn only on the real robot
- Formulate it as a value function learning problem

- Introduction to the Aibo
- Motor commands sent at 10Hz
  - PID control choose a set point
- Goal: get it to learn how to walk fast
  - Learn only on the real robot
- Formulate it as a value function learning problem
- Formulate it as a policy gradient problem

- Introduction to the Aibo
- Motor commands sent at 10Hz
  - PID control choose a set point
- Goal: get it to learn how to walk fast
  - Learn only on the real robot
- Formulate it as a value function learning problem
- Formulate it as a policy gradient problem.
  - Start with a parameterized walk