# CS394R Reinforcement Learning: Theory and Practice

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#### **Good Morning Colleagues**

• Are there any questions?





• Make progress on final projects!



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- This week's readings: Health and Sustainablity



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  - Epilepsy, species management, and wind turbine optimization
- Next week's readings: least squares methods



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- Preliminary programming assignments due before last day of class (2 weeks)



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- This week's readings: Health and Sustainablity
  - Epilepsy, species management, and wind turbine optimization
- Next week's readings: least squares methods
- Preliminary programming assignments due before last day of class (2 weeks)
- Final projects due 1 week later.



#### **Class Discussion — Charles Orchard**

• Simulators



### **Epilepsy Treatment**

- Randomized trees
- On policy?
- Testing procedure



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- Randomized trees
- On policy?
- Testing procedure
  - Estimated proportion of seizure states
  - Number of stimulation events
  - Expected immediate reward
  - Expected return



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- Humans: Already trials for detection and fixed stimulation in response
- Step to RL not so large



• Under what circumstances would you trust a Reinforcement Learning algorithm with your health care?



- Under what circumstances would you trust a Reinforcement Learning algorithm with your health care?
- What types of decisions would you allow it to make without human guidance?

