Good Morning Colleagues

• Are there any questions?
Logistics

• Make progress on final projects!
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• This week’s readings: Health and Sustainablity
Logistics

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- This week’s readings: Health and Sustainability
  - Epilepsy, species management, and wind turbine optimization
- Next week’s readings: least squares methods
Logistics

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  - 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)
Logistics

- Make progress on final projects!

- This week’s readings: Health and Sustainability
  - 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
Epilepsy Treatment

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

- 1 year to get empirical validation of final policy in vitro.
Moving forward

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- RL for health more of a pain than robots!
Moving forward

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• Plans for live animal (rats) tests this year
Moving forward

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  - recording and detecting seizures now
Moving forward

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- Plans for live animal (rats) tests this year
  - recording and detecting seizures now
  - Next: exploration data
Moving forward

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• Humans: Already trials for detection and fixed stimulation in response
Moving forward

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• RL for health more of a pain than robots!

• Plans for live animal (rats) tests this year
  – recording and detecting seizures now
  – Next: exploration data

• 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?
Class Discussion — Asher Johnson

- 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?