Sequential Decision Making

Lecture

Dr. James Doss-Gollin

2026-04-06

Coming Soon

This lecture is under development.

Content to adapt from previous course:

- Static vs. sequential decision framing
- State evolution: $\mathbf{x}_{t+1} = f_t(\mathbf{x}_t, a_t, e_{t+1})$
- Reward and value functions
- Solution methods: open loop, dynamic programming, policy search
- Real options and the value of flexibility

Preparation

Read Herman et al. (2020), in particular focusing on ...

References

Herman, Jonathan D., Julianne D. Quinn, Scott Steinschneider, Matteo Giuliani, and Sarah Fletcher. 2020. “Climate Adaptation as a Control Problem: Review and Perspectives on Dynamic Water Resources Planning Under Uncertainty.” *Water Resources Research*, January, e24389. https://doi.org/10.1029/2019wr025502.