Decision-time Planning

Main Takeaways

Common to use CEM

- Avoids local optima

- Can handle deterministic and stochastic dynamics

- Avoids exploding/vanishing gradients

Use MPC to make CEM closed loop

Consider infinite horizon via learned $Q_\theta(s, a)$

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Learning Objectives

Understand

1. ~~What a "model" is in model-based RL~~

2. ~~How a "model" can aid decision making~~

3. ~~Differences between background and decision-time planning~~

4. ~~Decision-time planning strategies for continuous actions~~

5. Sources of uncertainty in model-based RL

6. Rationale and insights for decision-making under uncertainty

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