Combining online and offline Reinforcement learning techniques

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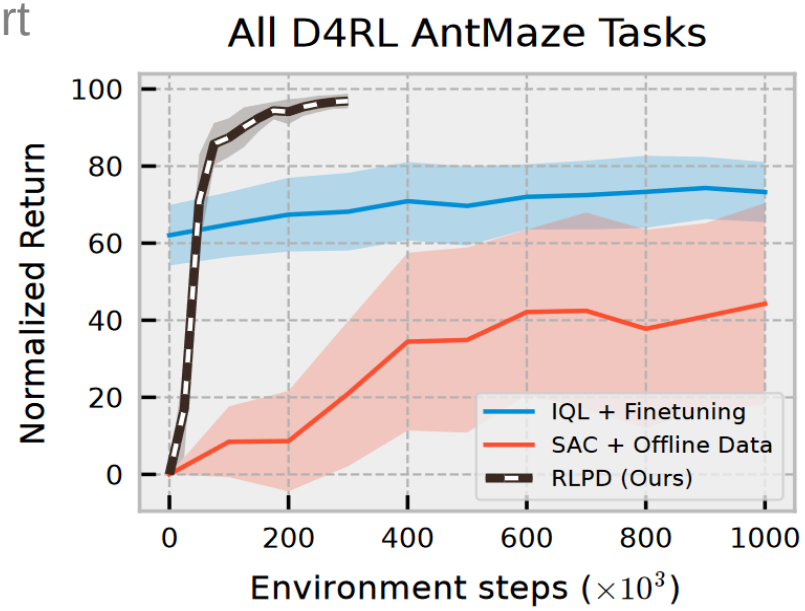
Combining online and offline-RL

- Online RL with offline pretraining datasets
  - Pretrain on offline dataset and finetune online
  - Improved sample efficiency
  - Extract behavior primitives from offline data, then learn to compose them online
- Dynamic combination of online and offline Reinforcement Learning

Combining online and offline-RL

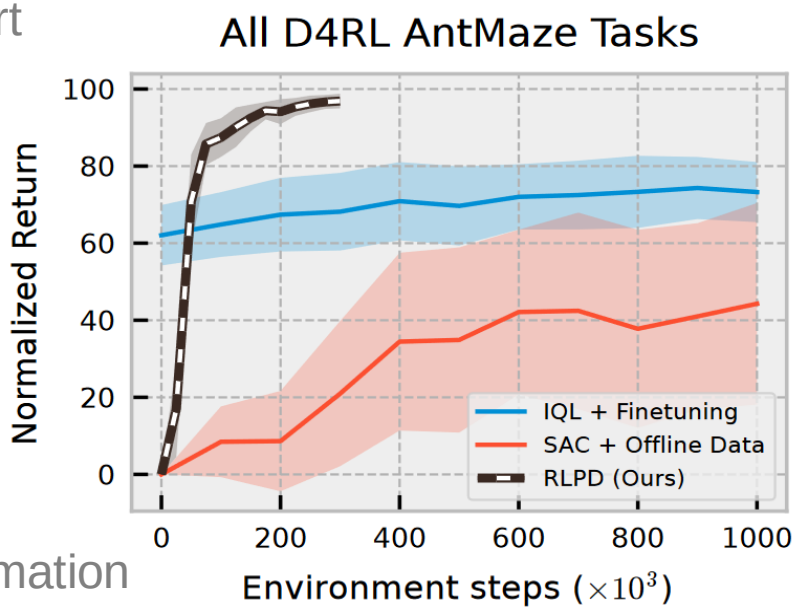
- Efficient online reinforcement learning with offline data (paper from 2023)
  - RLPD (Reinforcement Learning with Prior Data)
    - Clipped Double Q-Learning
    - Previous policies or human expert
    - Remarkable performance over 30 different tasks



Ball, Philip J., et al. "Efficient online reinforcement learning with offline data." *International Conference on Machine Learning*. PMLR, 2023

Combining online and offline-RL

- Efficient online reinforcement learning with offline data (paper from 2023)
  - RLPD (Reinforcement Learning with Prior Data)
    - Clipped Double Q-Learning
    - Previous policies or human expert
    - Remarkable performance over 30 different tasks
  - No pre-training or explicit imitation terms that privilege the prior offline Data
  - Balanced sampling strategies, Augmentation
  - LayerNorm to reduce OOD overestimation



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