## Deep Deterministic Policy Gradients - Components and Extensions



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## **Deep Deterministic Policy Gradient**



- Actor-Critic Method
- Deep Q-Learning
- Deterministic Policy Gradient

## **DDPG Pseudocode**



## Improvements for DDPG



- ▶ D4PG
  - ► Importance Weighted Experience Sampling
  - Utilizing N-Step return
  - Parallelized Actors
- Parameter Noise for Exploration
- Deep Changes