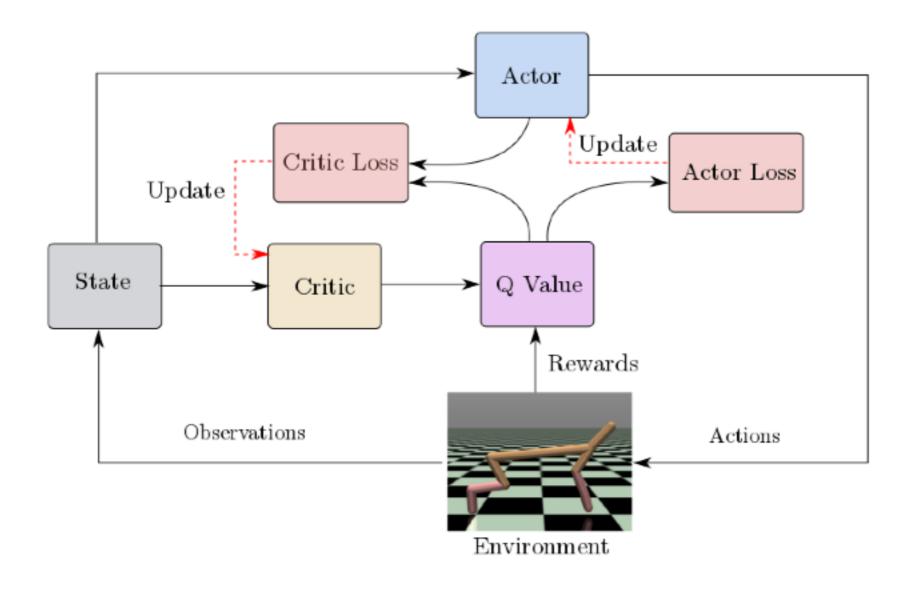
Database Generation with Curiosity Driven Exploration

Deep Deterministic Policy Gradients (DDPG)



DDPG

 Actor tries to approximate the best policy which maps a state to optimal action

$$\mu(\theta^{\mu}): s_t \to a_t$$

Critic tries to approximate the predict the correct Q value

$$Qc(\theta^{Qc}): s_t, a_t \to Q$$

Critic is trained to Satisfy Bellman Equation

$$L(\theta^{Qc}) = (Qc - (r_t + \gamma Q(s_{t+1}, a_{t+1})^{\pi}))^2,$$

Actor is trained by policy gradients given by,

$$\frac{\delta Qc}{\delta \theta^{\mu}} = \frac{\delta Qc}{\delta a} \frac{\delta a}{\delta \theta^{\mu}}$$