# Three common reinforcement learning tricks: when and why do they work

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**Abstract:**

Reinforcement learning has achieved remarkable breakthroughs recently for outperforming humans in many challenging tasks. Behind the scenes lies in the integration of various algorithmic techniques: neural function approximation, double learning, entropy regularization, etc. This talk will unveil some of the mysteries behind these techniques from theoretical perspectives, by understanding the asymptotic and finite-time behaviors of the algorithm dynamics.