

Continuous Policy and Value Iteration for Stochastic Control Problem and Its Convergence

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We propose a policy iteration algorithm, in which the approximations of value function and the control are updated simultaneously, for both the entropy regularized relaxed control problem and the classical control problem, with infinite horizon. We show the policy improvement and the convergence to the optimal control. Since both the value function and the control are updated according to differential equations in a continuous manner, we also confirm the convergence rate of the proposed algorithm. (This is a joint work with Gu Wang)

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