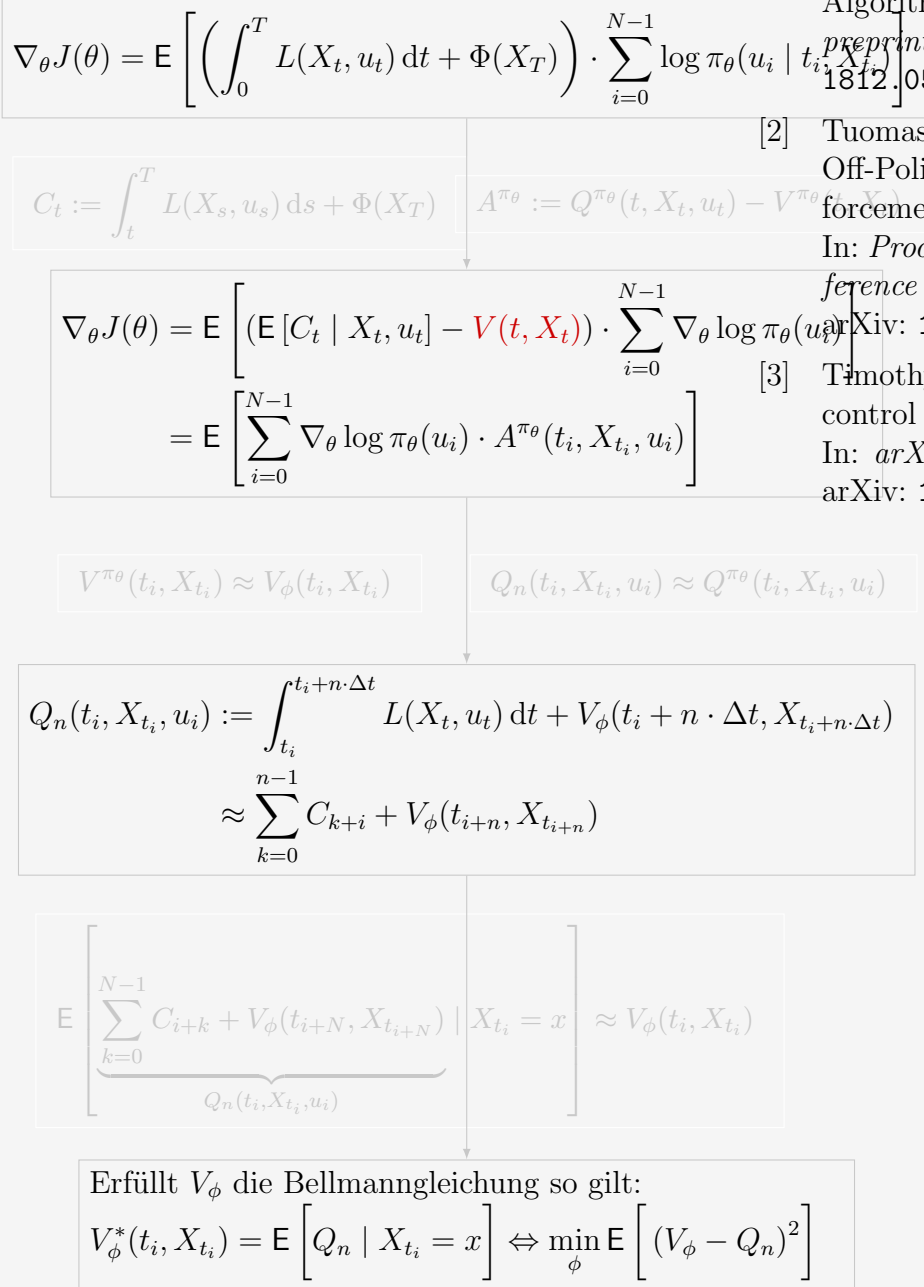


# Actor-Critic Methods for Control Problems

## References

- [1] Tuomas Haarnoja et al. “Soft Actor-Critic Algorithms and Applications”. In: *arXiv preprint arXiv:1812.05905* (2018). arXiv: 1812.05905 [cs.LG].
- [2] Tuomas Haarnoja et al. “Soft Actor-Critic: Off-Policy Maximum Entropy Deep Reinforcement Learning with a Stochastic Actor”. In: *Proceedings of the 35th International Conference on Machine Learning (ICML)*. 2018. arXiv: 1801.01290 [cs.LG].
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## Solving a (Stochastic) Control Problem

$$\min_{\pi} \mathbb{E} \left[ \int_0^1 X_t + u_t^2 dt + X_1^2 \right] \quad dX_t = (X_t + u_t + 1) dt + \sigma dW_t, \quad u_t \sim \pi_{\theta}(\cdot | t)$$

## Further Directions

Further improvements based on [3], [2] and [1].