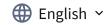
Policy Gradient Methods



Practice Assignment • 45 min



Your grade: 95.83%

Your latest: 95.83% • Your highest: 95.83%

To pass you need at least 80%. We keep your highest score.

Next item →

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| 1. | Which of the following is true about policy gradient methods? (Select all that apply) | 1/1 point |
|----|--|-----------|
| | If we have access to the true value function v_π , we can perform unbiased stochastic gradient updates using the result from the Policy Gradient Theorem. | |
| | $igotimes$ Correct. We derived this stochastic update by multiplying and dividing by $\pi(A S)$. | |
| | The policy gradient theorem provides a form for the policy gradient that does not contain the gradient of the state distribution μ , which is hard to estimate. | |
| | | |
| | ✓ Policy gradient methods do gradient ascent on the policy objective. | |
| | Correct Correct. Policy gradient methods maximize the policy objective, and hence perform gradient ascent. | |
| | Policy gradient methods use generalized policy iteration to learn policies directly. | |
| 2. | Which of the following statements about parameterized policies are true? (Select all that apply) | 1/1 point |
| | ☐ The function used for representing the policy must be a softmax function. | |
| | ✓ The probability of selecting any action must be greater than or equal to zero. | |
| | ✓ CorrectCorrect! This is one of the conditions for a valid probability distribution. | |
| | For each state, the sum of all the action probabilities must equal to one. | |
| | ○ Correct Correct! This condition is necessary for the function to be a valid probability distribution. | |
| | ☐ The policy must be approximated using linear function approximation. | |
| 3. | Assume you're given the following preferences $h_1=44,h_2=42,$ and $h_3=38,$ corresponding to three different actions (a_1,a_2,a_3), respectively. Under a softmax policy, what is the probability of choosing a_2 , rounded to three decimal numbers? | 1/1 point |
| | 0.42 | |
| | 0.119 | |
| | 0.879 | |