SARSA and QLeaning

Quiz, 4 questions

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1.

What is true about Bellman equations?

- [x] SARSA is based on Bellman expectation equation.

- [ ] Q-learning is based on Bellman expectation equation.

- [x] Q-learning is based on Bellman optimality equation.

- [ ] SARSA is based on Bellman optimality equation.

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2.

Let's analyze the definition of goals for the considered methods - SARSA, Expected SARSA, Q-learning.

- [ ] All methods except Q-learning use R , S' , A , S, where S' is the next state.

- [x] There are several sources of stochasticity in SARSA targets.

- [x] All methods except SARSA use R , S' , A , S, where S' is the next state.

- [ ] There are several sources of stochasticity in Q-learning targets.

- [ ] All methods except Expected SARSA use R , S' , A , S, where S' is the next state.

- [ ] There are several sources of stochasticity in Expected SARSA targets.

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3.

When SARSA is better than Expected SARSA?

- [ ]

☐ In the cases when we have a lot of parameters W.

☐ In the cases when we have only a few parameters W.

☐ In the cases when the gamma is too large.

☐ In the cases when the state space is too large, so that we cannot integrate approximations over huge state space.

☑ In the cases when it is impossible to compute an explicit expectation over policy stochasticity.

☑ In the cases when the action space is too large, so that we cannot integrate approximations over huge action space.

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4.

Select the correct statements about approximate (based on function approximation) SARSA and Q-learning.

☑ Both algorithms can use same neural network architectures for approximating the q-function.

☐ Both algorithms use the classification loss (e.g. accuracy, log loss, etc.)

☐ Q-learning uses semi-gradient udpates. SARSA uses SGD.

☑ The algorithms differ only in a form of update (more precisely, only in the target expression).

☑ Both algorithms use the regression loss (e.g. MSE, MAE, etc.)

☐ I, **Jiadai Zhao**, understand that submitting work that isn't my own may result in permanent failure of this course or deactivation of my Coursera account.

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