Reward design

Quiz, 4 questions

1 point

1.

What is the function of reward?

- [x] It tells agent what we want it to do
- [ ] It tells agent how to achieve the stated objectives
- [ ] It defines the value of each state
- [ ] It defines the value of each (state, action) pair
- [x] It defines the value of each (state, action, next state) triple

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1 point

2.

What are the typical problems with optimization of return?

- [x] Sparse reward signal
- [ ] Reward can be discounted
- [ ] Negative feedback loop
- [ ] The length of the episode can be finite
- [x] The length of an episode can be infinite
- [x] Positive feedback loop problem

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1 point

3.

Which of those are correct ways to alter the reward function?

Reward design

By "correct" we mean a way that does not change the optimal policy.

Quiz, 4 questions

- [ ] Reshape the rewards - add action-potential shaping function to all of the rewards.
- [x] Scale the reward signal - divide it by 10, for example
- [x] Reshape the rewards - add state-potential shaping function to all of the rewards
- [ ] Standardise the rewards. That is, for example, subtract mean and divide by standard deviation.

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1 point

4.

What does the reward discounting means for the agent point of view?

- [ ] It reduces the bias of the return estimator by increasing the contribution of close rewards.
- [x] It focuses agent's attention more on close rewards and reduce the value of distance ones.
- [ ] It focuses agent's attention more on distant rewards and reduce the value of close ones.
- [x] It reduces the variance of the return estimator by decreasing the contribution of distant rewards.

- [x] 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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