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EECS 658

22 November 2022

Assignment 7 Answers

1. I chose the Monte Carlo convergence method. This approach to solve the gridworld task is naive but effective. It produces n simulations starting from random points of the grid, and lets the robot move randomly to the four directions until a termination state is achieved. It is considered a naïve approach since it uses a guess and check system to get to the termination state which can be inconvenient at times. However, I chose this approach because it does not require a full understanding of the environmental dynamics and we can learn directly from experience or simulation.

2. I chose the Monte Carlo convergence method. The randomness was a bit of a hinderance when computing the value policy solution. To elaborate, when most of the values had converged, there was one straggler that caused convergence to take 40 iterations instead of 10. This is a setback that caused 4x the number of instructions to be executed which is not ideal. However, I used the Monte Carlo approach because it offers an effective, elegant way to get convergence. Also, it is remarkably interesting to see how convergence can be gathered incredibly fast if randomness happens to solve the path perfectly.