

Robotics II – Navigation: Entry survey

- What were the steps in the particle filter algorithm?

Answer: Create homogeneous set of particles, multiply weights by sensor data, resample particles and shift them by movement. Repeat.

- In what task would a robot need to combine a particle filter with planning? Briefly explain their roles in at least one example.

Answer: Solving a maze, driving car: localize first, then find best way to goal.

Exit survey

- Why do we normalize particle weights? Where are they used next?

Answer: So that they are legitimate probability values from which we can resample new particles.

- How can we force a robot whether or not to choose actions like taking a left turn?

Answer: In MDP, we can give the action a large negative reward.