

CSCI-4290/6290: Robot Motion Planning
Lecture 9: September 27, 2005
Approximate Cell Decomposition

Announcements

Assignment 2 is due on Saturday, October 1 at 11:59pm.

Today's Class

In the last class, we discussed exact cell decompositions and focused on the trapezoidal cell decomposition. Today we look at approximate cell decomposition methods for motion planning. In particular, we consider the quadtree and octree representations of c-space to plan the motions of a robot.

1. Orientation slicing
2. Approximate cell decomposition
3. Octree and quadtree representations
4. Cell labeling

Reading

Chapter 3.6, *Fundamentals of Mobile Robotics*, by Wes Huang.
Chapter 6-6.2, 6.5.1, Latombe. (optional)

Next Class

Potential field methods.