

CSCI-4290/6290: Robot Motion Planning
Lecture 9: September 23, 2003
Approximate Cell Decomposition

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.