CSCI-4290/6290: Robot Motion Planning
Lecture 5: September 13, 2005
Geometric Transformations, Quaternions

Announcements

- Solutions to Questions 5 and 6 are to be submitted at the beginning of class on Friday, September 16.

Today's Class

In the last class, we looked at geometric transformations for rigid objects in 2D and 3D. Today we will continue our discussion of geometric transformations for articulated robots, and a representation of the rotational motion of an object in 3D using quaternions.

1. Geometric transformations in 2D and 3D for articulated objects: kinematic chains and Denavit-Hartenberg parameters
2. Using quaternions to represent rotations in 3D for a rigid object.

Reading

Chapter 3, Choset et al.
Chapters 3 and 4, LaValle.

Next Class

Visibility roadmaps.