

CSCI-4965/6963: Robot Motion Planning
Lecture 6: September 17, 2001
Voronoi Roadmaps

Announcements

Assignment 2 is due on Monday, October 1.

Today's Class

In the last class, we discussed visibility graphs. Today we look at another example of roadmap methods, *Voronoi roadmaps*, to plan the motion of a translating robot in the plane.

1. Visibility graphs review
2. Minkowski sum for computing c-space obstacles
3. Voronoi diagrams of points
4. Voronoi diagrams of polygonal regions
5. Computing paths using Voronoi roadmaps

Reading

Chapter 4.2, Latombe.

Additional References

For Voronoi diagrams of points:

Chapter 7 of *Computational Geometry: Algorithms and Applications*, second edition, by M. de Berg, M. van Kreveld, M. Overmars, and O. Schwarzkopf, Springer, 2000.

Next Class

Trapezoidal decompositions.