CSCI-4290/6290: Robot Motion Planning
Lecture 17: October 24, 2003
Nonholonomic Motion Planning

Announcements

- **Important**: The midterm exam is on Tuesday, October 28 in class from 12:00pm to 1:50pm. It will be a closed book and closed notes exam.
- For graduate students taking CSCI-6290: Please send me email indicating your top choices of (sets of) papers for class presentation today!
- Assignment 5 is due on November 4.

Today's Class

Today we continue our discussion of *nonholonomic robots* and motion planning techniques for such systems. We also look at the use of Lie brackets to determine whether a system is nonholonomic.

1. Review of two-phase nonholonomic motion planning
2. Lie brackets
3. Integrability, Frobenius theorem
4. Discretized planning (Barraquand and Latombe)

Reading

Chapter 11, Choset et al.
Chapters 14 and 15, *Planning Algorithms* by LaValle.
Chapter 9 through 9.6, Latombe. (optional)

Next Class

Midterm exam!