Feature-Sensitive Motion Planning

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The Basic concept of motion planning is to find a path that moves a robot (movable object) from a start configuration to a goal configuration without colliding with the obstacles.
Feature-Sensitive Motion Planning

* Divide environment into sections
* Create roadmap for each section using appropriate planner
* Connect each section to create one roadmap
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Research Goals

- Change Rotate At S function
- Implement method for connecting roadmaps generated by different planners
- Results of applying connection methods
Rotate_At_S

- A planner that connects two configurations by rotating at a given percentage before connecting them.

video
Rotate_At_S

- Changed the Rotate_At_S function so that it will rotate several times between each configuration connection
- Minor debugging errors
Map Connection

- Given two maps try to connect them
- Make a list of the vertices in the overlap for each region
- Try to connect each vertex from one list to all the vertices on the other list
Map Connection

- Connect the vertices from the lists using K Closest
- Should be faster than the current method
Conclusion

- The Feature-Sensitive Motion Planning project is very challenging.
- I am working with great mentors who have helped me learn a lot.
- I am excited about what I will work on for the remainder of the program.