

# 6.S078 Planning Algorithms, Fall 2014

September 17, 2014

## Assignment 2 (due Wed. Oct 1 before class)

Implement a visibility-graph planner for polygons on the plane; same setup as in Assignment 1, but no grid.

- Implement configuration space obstacles for convex polygons; use the “Star” algorithm.
- Implement visibility graph for just translations. The simplest version of the visibility-graph has many useless links; keep only the links that are “tangent” to the obstacles. Also, remember that you will need the edges of the C-space polygons to be in the graph.
- Extend the visibility graph to plan for a fixed set of orientations of the robot. Thus there will be links in the graph corresponding to translations (at a fixed angle) and rotations (changing angles).

Please send email to ask for any clarifications.

You should upload a zip file with your code to the Stellar site. Also write a brief description of your approach in a PDF file and include some runs of your algorithm, with tables showing performance, as you did for assignment 1.