Q and A for Motion Planning and Application

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Abstract

In this document I have listed questions repeatedly asked from students taking the course, and reasonable answers to them. Note that answers may be incorrect, but are provided as a starting point to address questions.

1 Path Planning for Point Robots

I think that the concept of the C-Space is very nice. However, it may take a lot of time to compute free spaces out of the C-Space. So, in the end, it may be useless.

As you pointed out, it takes a lot of time to compute free spaces out of the C-Space. Actually, it is one of the most challenging problems to exactly or approximately (with a bound) construct the free space. As a result, instead of constructing such spaces, many techniques use C-Space as a conceptual tool to represent a wide variety of robot and to place the robot at the environment.