

A Planning Method to Obtain Good Quality Paths for Autonomous Cars

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Abstract—Path planning among obstacles for nonholonomic systems is a widely researched area nowadays, but it is still one of the most challenging problems in autonomous navigation. We have recently presented a rapidly exploring random tree based global planner (RTR) and a steering method (C*CS) for car-like vehicles, which uses circular and straight movements. With the aid of these two methods it is possible to obtain a feasible path, even in narrow spaces and in situations requiring non-trivial maneuvers. This paper presents an improved solution for environments, where not all obstacles are known at the beginning and these are discovered during the motion of the robot. We also introduce an extension to the presented algorithm to achieve paths of better quality, i.e. more similar to a reasonable path generated by a human driver.

I. INTRODUCTION

[1] [2]

II. RELATED WORK

III. CONCLUSIONS AND FUTURE WORK

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