A STUDY ON THE REAL-TIME OBSTACLE AVOIDANCE OF ROBOT BASED ON ELASTIC FORCE

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TÓM TẮT:

This paper proposes the Elastic Force application on the obstacle avoidance of Silvermate Robot. The method deals with the problem associated with a Silvermate robot driving to a goal configuration as avoiding obstacles. The initial trajectory of a robot is determined by a motion planner, and the trajectory modification is accomplished by adjusting the control points. The control points are obtained based on the elastic force approach. Consequently the trajectory of a robot is incrementally modified to maintain a smooth and adaptive trajectory in an environment with obstacles. The suggested algorithm drivers the robot to obstacle avoid in real-time. Finally, the simulation studies are carried out to illustrate the effectiveness of the proposed approach.