

عنوان مقاله:

An Efficient Fuzzy Method for Path Planning a Robot in Complex Environments

محل انتشار:

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خلاصه مقاله:

In this paper a fuzzy path planning method is proposed to navigate a robot in complex environments. The static form of the environment is assumed to be known, but there is no prior knowledge about the dynamic obstacles. In this situation an online and realtime approach is essential for avoiding collision. In the proposed algorithm, the global path between the start and goal points of the environment is divided to local small paths. The start point of each local path is supposed to be a local start point and the end point of each local path is supposed to be a local goal point. To reach the global goal point, nanorobot should avoid colliding with any obstacles. A fuzzy logic algorithm with two strategies is designed in order to seek the local targets and to avoid obstacles. To demonstrate the efficiency of the proposed approach Monte Carlo simulation with random numbers is used, where the dynamic obstacles are assumed to appear in exponential distributed random time intervals

کلمات کلیدی:

Path planning, Robotic, Fuzzy logic, Complex environments, Nanorobot

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