

工程与应用

证据理论在最优路径规划中的应用

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摘要 路径规划是车载导航系统的核心功能, 其中最优路径规划功能最为常用。在最优路径规划中, 道路属性起着关键的作用。目前道路属性的应用都是进行简单的加权求和, 而这样道路属性不仅没有得到充分的应用, 而且路径规划结果也不够理想。将道路属性数据进行量化后, 应用证据理论将每条道路的属性进行融合, 融合后的数据作为道路权值。这样不仅可以改善属性数据的应用效果, 而且可以优化规划结果。实验表明了改进后的算法在没有影响搜索效率的前提下, 搜索结果得到了优化。

关键词 [证据理论](#) [路径规划](#) [最优路径](#) [Dijkstra算法](#)

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Application of evidence theory in optimum route planning

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Abstract

Route planning is one of core modules in vehicle navigation system, and optimum route planning is quite in common use. The attributes of route play an important part in optimum route planning. But they are often just added together simply, which neither can use the attributes appropriately, nor the route planning result is perfect enough. This paper makes a fusion on the attributes by evidence theory after the attributes are quantized, the fusion data uses as weight of the route, which can improve the application of the route attributes, and can optimize the planning results as well. The experimental results show that the results are more perfect and the efficiency of the improved algorithm has not been affected.

Key words [D-S evidence theory](#) [route planning](#) [optimum route](#) [Dijkstra algorithm](#)

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