

Efficient Route-Planning Approach

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In this work we are concerned with a route-planning problem in huge graphs such as real-world road maps. In this problem we are given two end positions and we want to find the best route among them with respect to chosen criteria. We propose a new two-level heuristic approach based on a clarification of a well-known cell search method. We introduce a notion of a scope of an edge that is able to ensure a quite natural human thinking about the route-planning via rigorous mathematical assumption and plays an important role in preprocessing as well as in subsequent queries. In particular, it seems that our approach could be very applicable for mobile devices because of its memory efficiency.

This work partially follows on author's Bachelor Thesis and it represents the main part of his Master Thesis.