MAP STREAM: INITIALIZING WHAT-IF ANALYSES FOR REAL-TIME SYMBIOTIC TRAFFIC SIMULATIONS

Abstract:
In the context of a city-scale symbiotic traffic simulation, real-time data about the location of many vehicles are obtained in the form of a continuous data-stream. In this paper, we present a scalable solution for performing map-matching using sliding-windows over a GPS data-stream onto a digital road-network for initializing the what-if analysis process involved in symbiotic simulations. We focus on the optimizations performed to ensure that the latency associated with the map-matching process is low while maintaining a high degree of accuracy. Experimental results reveal the range in terms of sampling interval and noise for acceptable reliability and latency.

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