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Static vs. Stream Mining Trajectories Similarity Measures

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Abstract : Trajectory similarity can be defined as the cost of transforming one trajectory into another based on certain similarity method. It is the core of numerous mining tasks such as clustering, classification, and indexing. Various approaches have been suggested to measure similarity based on the geometric and dynamic properties of trajectory, the overlapping between trajectory segments, and the confined area between entire trajectories. In this article, an evaluation of these approaches has been done based on computational cost, usage memory, accuracy, and the amount of data which is needed in advance to determine its suitability to stream mining applications. The evaluation results show that the stream mining applications support similarity methods which have low computational cost and memory, single scan on data, and free of mathematical complexity due to the high-speed generation of data.

Keywords : global distance measure, local distance measure, semantic trajectory, spatial dimension, stream data mining
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