

Moving Object Trajectory Mining - Trajectory decomposition algorithm

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This talk presents a methodology that allows to extract movement parameters from the trajectories of different types of moving objects and classify trajectories of unknown MPOs by similarity to the trajectories of previously learned MPOs.

The key element of the methodology is an algorithm that decomposes the profiles generated for different movement parameters using variations in sinuosity and deviation from the median line.

Our proposed methodology is useful in several respects. It can help answer the question how similar proxy MPOs are to the corresponding reference MPOs. It can inform developers of pattern recognition and data mining algorithms about similar and dissimilar types of moving objects, hence allowing to design rigorous algorithm evaluation strategies. It yields relevant movement attributes at the global level of the entire trajectory as well as at the local level of segments of homogeneous movement characteristics, enabling more differentiated parameterization of trajectory simulations.

Keywords: Trajectory mining, movement parameter, moving Object

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