Spatial-Temporal Trajectory Simplification for Inferring Travel Paths

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**METHOD**

We proposed three simplification algorithms to enhance map matching:

- **Incremental Simplification (IS)** simplifies a trajectory point-by-point by maintaining an incremental window;
- **Sliding Window Simplification (SWS)** keeps a fixed size of window moving forward with an increasing number of points;
- **Global Simplification (GS)** considers the entire trajectory while reducing the number of GPS points.

**CONTRIBUTIONS**

- We propose three simplification algorithms - Incremental Simplification (IS), Sliding Window Simplification (SWS), and Global Simplification (GS);
- We use different weighting functions that incorporate spatial knowledge into the trajectory simplification process;
- We evaluate our algorithms on two real datasets – Seattle and Melbourne.