Comparison and Evaluation of Representation Learning Algorithms for Road Intersections

Representation Learning is the problem of automatically deriving meaningful features from data for down-stream machine learning algorithms. Recent advances propose representation learning techniques for road network data [1]. However, the utility of such representations in down-stream tasks such as travel time estimation [2], destination prediction [3], and dynamic speed adaptation [4] is widely unexplored.

The aim of this thesis is to investigate the utility of different representation learning approaches for down-stream applications. The subjects of the thesis include but are not limited to:

- Review of and comparison of existing representation learning approaches as well as baseline feature engineering methods.
- Review of down-stream applications for road intersection representations.
- Empirical evaluation and comparison of selected road intersection representations on suitable down-stream applications.
- Discussion of the information captured by the intersection representations.

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References:


