

Toward quadratic optimal transport on graphs

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A large part of the theory of optimal transport over smooth domains involves the use of costs that grow quadratically in distance. In contrast, graph-based algorithms for transport largely are designed for costs that grow linearly in shortest-path distance along the graph. To address this disconnect between theory and practice, in this talk I will demonstrate some applications of optimal transport on graphs for which quadratic costs lead to more desirable empirical behavior. Furthermore, I will describe some theoretical and optimization-based efforts to provide tractable models for quadratic transport on graphs.

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