

SEMINARIO

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Robust barycenters for distributional data

Abstract: We propose a new robust barycenter for distribution-valued data by incorporating the Huber loss directly into the optimal transport cost and establish the analytical and statistical foundations of this construction. For the optimal transport problem, we prove regularity and uniqueness properties of dual potentials, existence of optimal transport maps, and stability as the Huber parameter varies. For the associated barycenter problem, we determine its relationship with Wasserstein means and medians, prove existence and characterization results, show consistency of empirical plug-in estimators, and compute its finite-sample breakdown point.

This is joint work with Alberto González Sanz.

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