

Entropic interpolations

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The Schrödinger problem consists in minimizing the entropy of a path measure subject to the constraint that its initial and final marginals are prescribed. The time marginal flow of its solution is called an entropic interpolation. On a Riemannian manifold, the convexity properties of the Boltzmann entropy along any displacement interpolation is closely related to the lower bound of its Ricci curvature (Lott-Sturm-Villani theory). We show that, to some extent (there is still a lot of work to do) this also holds with entropic interpolations built on the Brownian motion, instead of displacement interpolations. This framework is also valid on graphs where the entropic interpolations are built upon random walks.