## Benamou-Brenier curves on graphs

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Abstract. Given a couple  $f_0$ ,  $f_1$  of finitely supported probability measures on a graph, we construct an interpolating curve  $(f_t)_{t \in [0,1]}$  which plays the same role as a  $W_2$  Wasserstein geodesic in continuous spaces. We then study the interplay between the geometry of the graph and the convexity properties of the entropy functional along these curves.