Séminaire de Probabilités et Statistique

Mardi 23 janvier à 14h00

Salle de conférences

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ENSAE-CREST

Statistical properties of barycenters in metric spaces

Barycenters provide a canonical extension of linear averaging in non-linear spaces. They are defined as minimizers of an optimization problem which, in general, is non-convex. First, we will establish a general framework for their definition and their fundamental properties, imposing the existence of geodesics as well as curvature assumptions of the ambient metric space. We will then study statistical properties of barycenters of random variables: laws of large numbers, asymptotic normality and finite sample concentration.