Mathematics, Statistics, and Computer Science **@ UIC**

Statistics and Data Science Seminar

Additive Regression for Non-Euclidean Data

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Abstract: Analyzing non-Euclidean data is becoming an important topic in modern statistics, as various non-Euclidean data are emerging. However, it is not transparent how one can analyze such non-Euclidean data in many subject areas. In this talk, we introduce a general regression method for analyzing many types of non-Euclidean data. In particular, we consider additive models with some metric-space-valued predictors and Hilbertian responses. The predictors in our setting cover any finite-dimensional-Hilbert-space-valued predictors and Riemannian-manifold-valued predictors. Hence, they allow for Euclidean, compositional, circular, spherical and shape-valued predictors. The response setting is broad as well covering Euclidean, compositional, functional and density-valued responses. We present several real data analysis which show the wide applications of our method. We also present its asymptotic theory.

Wednesday, November 25 at 4:00 PM in Zoom