Próximo Seminario DMAT

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Uncovering Sets of Maximum Dissimilarity on Random Process Data

The comparison of local characteristics of two random processes can shed light on periods of time or space at which the processes differ the most. In this talk, I will propose a method that learns about regions with a certain volume, where the marginal attributes of two processes are less similar. The proposed methods are devised in full generality for the setting where the data of interest are themselves stochastic processes, and thus the proposed method can be used for pointing out the regions of maximum dissimilarity with a certain volume, in the contexts of point processes, functional data, and time series. The parameter functions underlying both stochastic processes of interest are modeled via a basis representation, and Bayesian inference is conducted via an integrated nested Laplace approximation. The numerical studies validate the proposed methods, and we showcase their application with case studies on criminology, finance, and medicine.