Graduate Students in Probability Seminar

Eric Lybrand
UCSD

The Generic Chaining

Abstract:
The study of stochastic processes and their expected suprema arises in many natural contexts. Some examples include understanding the modulus of continuity for Brownian motion, bounding the maximum singular value of a random matrix, or quantifying discrepancies between a distribution and its corresponding empirical distribution. Early attempts at understanding Gaussian processes dates back as far as Kolmogorov and more recently to Dudley, Fernique, Pisier, and Marcus, among many others. Michel Talagrand has provided a powerful and elegant framework known as the Generic Chaining which unifies and extends the work of these mathematicians to give optimal bounds on the expected suprema of Gaussian processes. The aspirational goal of this talk is to outline chaining à la Talagrand while focusing on understanding and not getting lost in the details of the set-up. Material is drawn mostly from Chapter 2 of Talagrand’s text “Upper and Lower Bounds for Stochastic Processes.”

Wednesday, January 22, 2020
3:00 PM
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