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School of Arts and Sciences

Department of
Statistics and Biostatistics

DEPARTMENT OF STATISTICS AND BIOSTATISTICS

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Learning Determinantal Point Processes

March 22, 2017
3:20 – 4:20pm
Light refreshments will be served
110 Frelinghuysen Road
Hill Center, Room 552

Abstract: Determinantal point processes (DPPs) have attracted a lot of attention in probability theory, because they arise naturally in many integrable systems. In statistical physics, machine learning, statistics and other fields, they have become increasingly popular as an elegant mathematical tool used to describe or model repulsive interactions. In this talk, I will present two methods for estimation of the parameter of a DPP, based on a sample of i.i.d. copies: Namely, the maximum likelihood estimator and an estimator based on a method of moments. Surprisingly, the performances of these estimators depend on the combinatorial structure of a graph naturally associated with the DPP. Lastly, I will discuss optimality of these estimators.

Bio: Victor-Emmanuel Brunel received his PhD jointly from University of Haifa, Israel and Université Pierre et Marie Curie, Paris VI. His research interests include parametric and nonparametric estimation, convex set estimation, convex analysis and geometry, probability theory, and stochastic geometry.