THE UNIVERSITY OF CHICAGO

Department of Statistics

STATISTICS COLLOQUIUM

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New Results at the Crossroads of Convexity, Learning and Information Theory

MONDAY, March 28, 2016, at 4:00 PM
Eckhart 133, 5734 S. University Avenue

ABSTRACT

I will present three new results: (i) how to build a universal self-concordant barrier from the entropy of a canonical exponential family on a convex body; (ii) sampling (in polynomial time) a random variable with concave log-density can be done with projected Langevin Monte Carlo; and (iii) Thompson sampling combined with a multi-scale exploration solves the Bayesian convex bandit problem. The unifying theme in these results is the interplay between concepts from convex geometry, statistics, learning and information theory.