



THE UNIVERSITY OF CHICAGO

Department of Statistics

SCIENTIFIC AND STATISTICAL COMPUTING SEMINAR

JOHN DUCHI

Department of Statistics
Stanford University

Randomized Smoothing and Stochastic Optimization

THURSDAY, October 9, 2014 at 4:30 PM
133 Eckhart Hall, 5734 S. University Avenue
Host: John Lafferty

ABSTRACT

In this talk, we will review a few recent works that combine randomized perturbation techniques with optimization. Randomized perturbations have a long history in optimization, where they are used to alleviate difficulties associated with non-smooth, non-convex, or other restrictions on optimization procedures. We will focus more specifically on the ways randomized smoothing leads to improvements in stochastic approximation and optimization, including in parallel computation and zero order (problems in which only function values are available) optimization. In particular, we will discuss optimal algorithms for a variety of problem families, where the only known techniques for achieving this optimality require randomization and smoothing, and we will provide experimental evidence showing that the insights are not simply theoretical in nature. (Based on joint work with Peter Bartlett, Michael Jordan, Martin Wainwright, and Andre Wibisono.)

Organizers:

Lek-Heng Lim, Department of Statistics, lekheng@galton.uchicago.edu, Ridgway Scott, Departments of Computer Science and Mathematics, ridg@cs.uchicago.edu, Jonathan Weare, Department of Statistics and The James Franck Institute, weare@uchicago.edu. SSC Seminar URL: http://www.stat.uchicago.edu/seminars/SSC_seminars.shtml.

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