



THE UNIVERSITY OF CHICAGO

Department of Statistics

SCIENTIFIC AND STATISTICAL COMPUTING SEMINAR

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Stratified Sampling in Computational Statistical Mechanics

THURSDAY, May 21, 2015 at 4:30 PM
133 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

Stratified sampling methods compute averages by partitioning the sample space into subregions, sampling conditional distributions confined to the subregions, and computing averages over the target distribution from the conditional averages. We provide a framework for analyzing the costs and benefits of stratified sampling. We show that for problems of interest in statistical mechanics, the benefits can be dramatic, but only if the subregions are well chosen. We also develop methods for adaptively choosing the parameters involved in stratification to maximize efficiency.

Organizers:

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