RUTGERS - CAMDEN MATH SEMINAR

11-12, FRIDAY FEBRUARY 11TH, BSB 132

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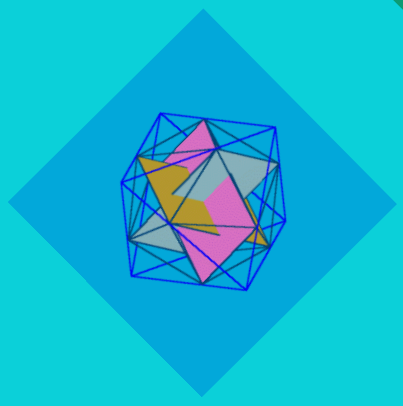

Dr. Guanyang Wang

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Title: Unbiased Multilevel Monte Carlo methods for intractable distributions: MLMC meets MCMC

Abstract: Constructing unbiased estimators from MCMC outputs has recently increased much attention in statistics and machine learning communities. However, the existing unbiased MCMC framework only works when the quantity of interest is an expectation of certain probability distribution. In this work, we propose unbiased estimators for functions of expectations. Our idea is based on the combination of the unbiased MCMC and MLMC methods. We prove our estimator has a finite variance, a finite computational complexity, and achieves ε-accuracy with $O(1/\varepsilon^2)$ computational cost under mild conditions. We also illustrate our estimator on several numerical examples. This is a joint work with Tianze Wang.

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