THE UNIVERSITY OF CHICAGO

Departments of Computer Science, Mathematics, Statistics, and the Computation Institute

SCIENTIFIC AND STATISTICAL COMPUTING SEMINAR

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On Tensor PCA and Other Low-Rank Tensor Approximation Problems

THURSDAY, November 21, 2013, at 4:30 PM

Eckhart 133, 5734 S. University Avenue

ABSTRACT

Tensor/polynomial optimization is a relatively new direction of research in optimization. In this talk we shall present some new results regarding the computational models along that direction. A good example is the so-called tensor PCA (Principal Component Analysis) problem, which has found wide applications in Magnetic Resonance Imaging (MRI), radar signal processing, DNA expression data completion, video image data recovery, and so on. Other tensor optimization models include the Candecomp/Parafac (CP) decomposition and the Tucker decomposition. Computational methods for solving the resulting non-convex optimization models will be discussed.

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