



THE UNIVERSITY OF
CHICAGO

Department of Statistics

SCIENTIFIC AND STATISTICAL COMPUTING SEMINAR

PER-GUNNAR MARTINSSON

Department of Applied Mathematics
University of Colorado at Boulder

Randomized Algorithms for Approximating Matrices

THURSDAY, February 19, 2015 at 4:30 PM
133 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

Low-rank matrix approximations, such as partial spectral decompositions or principal component analysis (PCA), play a central role in data analysis and scientific computing. The talk will describe a set of randomized algorithms for efficiently computing such approximations. These techniques exploit modern computational architectures more fully than classical methods and open the possibility of dealing with truly massive data sets.

The algorithms described are supported by a rigorous mathematical analysis that exploits recent work in random matrix theory. The talk will briefly review some of the key theoretical results.

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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