



THE UNIVERSITY OF  
**CHICAGO**

Department of Statistics

**STATISTICS COLLOQUIUM**

*Joint seminar with Department of Computer Science*

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**Multiresolution Matrix Factorization**

**WEDNESDAY, September, 27, 2017, at 2:30 PM**  
Ryerson 251, 1100 E. 58th Street

**ABSTRACT**

The sheer size of today's datasets dictates that learning algorithms compress or reduce their input data and/or make use of parallelism. Multiresolution Matrix Factorization (MMF) makes a connection between such computational strategies and some classical themes in Applied Mathematics, namely Multiresolution Analysis and Multigrid Methods. In particular, the similarity matrices appearing in data often have multiresolution structure, which can be exploited both for learning and to facilitate computation. Other applications that we discuss include solving large Gaussian process regression problems and preconditioning for symmetric linear systems. The research presented in this talk is the product of joint work with Nedelina Teneva, Pramod Mudrakarta, Yi Ding, Jonathan Eskreis-Winkler and Vikas Garg.

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For further information and inquiries about building access for persons with disabilities, please contact Jonathan Rodriguez at 773.702.8333 or send him an email at [jgrodriguez@galton.uchicago.edu](mailto:jgrodriguez@galton.uchicago.edu). If you wish to subscribe to our email list, please visit the following website:  
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