APPLIED MATHEMATICS COLLOQUIUM

Sketchy decisions: Low-rank matrix optimization with optimal storage

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Abstract: Convex matrix optimization problems with low-rank solutions play a fundamental role in signal processing, statistics, and related disciplines. These problems are difficult to solve because of the cost of maintaining the matrix decision variable, even though the low-rank solution has few degrees of freedom. This talk presents the first algorithm that provably solves these problems using optimal storage. The algorithm produces high-quality solutions to large problem instances that, previously, were intractable.

Joint with Volkan Cevher, Roarke Horstmeyer, Quoc Tran-Dinh, Madeleine Udell, and Alp Yurtsever.

Wednesday April 5th, 2017
4:30PM
MIT, Room 2-190

Applied Math Colloquium: http://math.mit.edu/amc/spring17/
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