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MASTER'S THESIS PRESENTATION

Bridging Convex and Nonconvex Optimization for Matrix completion in a Non-Uniform World

WHEN
May 4, 2022
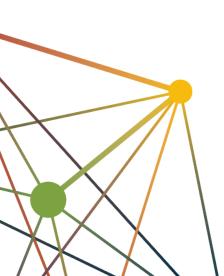**8:45 AM**

WHERE
Zoom Meeting
For ZOOM presentations, details will be provided in an email announcement for this seminar.

Heming Liu, MS candidate

In this paper, we consider an approach to noisy low-rank matrix completion by performing a weighted sampling of partially and corrupted rows and columns of a large low-rank matrix. We know when the sampling distribution is not a product distribution, the standard weighted-trace norm can fail. Convex programming is compared to Burer-Monteiro under entrywise loss with weighted norms, as well as the rank of the unknown matrix constant and random noise. This is achieved by combining convex relaxation with the nonconvex Burer-Monteiro approach. We show that a nonconvex formulation approaches the convex solution extraordinarily well.

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