Matrix Computations and Scientific Computing Seminar

Organizer: Jim Demmel and Ming Gu

Wednesday, 12:00–1:00 pm, 380 Soda Hall

Oct 7 **Frank Ong**, UC Berkeley

Multi-scale low rank matrix decomposition

Data matrices are often correlated at different scales. Motivated by this observation, we consider the decomposition of a matrix into block-wise low rank components of multiple scales. We approach the problem via a convex formulation and present an iterative algorithm using block-wise SVD's. We show that in practice, the multi-scale low rank decomposition often returns intuitive matrix decomposition. We will also show some results on real-world datasets, including face images, surveillance videos, magnetic resonance images and movie rating matrices.