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Yi Ma* (yima@uiuc.edu), 145 Coordinated Science Lab., 1308 West Main Street, Champaign, IL 61821. *Applications of Sparse Representation in Computer Vision.*

In this talk, I will discuss potential applications of sparse representation in computer vision, in particular in the problem of object recognition. Using face recognition under varying illumination as an example, we contend that if the inherent sparsity in the recognition problem is properly harnessed, say via L1-minimization, the choice of features is no longer critical. The differences between classical face features become insignificant as the feature-space dimension increases. Other naive features such as severely down-sampled images and completely random features perform almost equally well. (Received April 04, 2007)