BIG DATA INVERSE PROBLEMS — PROMOTING SPARSITY AND LEARNING TO REGULARIZE

TIA CHUNG

In this talk, we present novel methods for the broad spectrum of inverse problems where the aim is to reconstruct quantities with a sparse representation on some vector space. The associated optimization problems with L1 regularization have received significant attention, due to their wide applicability in compressed sensing, dictionary learning, and imaging problems, to name a few. We present a new method based on variable projection and describe a new approach that uses deep neural networks (DNNs) to obtain regularization parameters for solving inverse problems.