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Room 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Seminar

The iterative convolution thresholding method (ICTM) and its applications

Prof. Dong Wang
University of Utah

Abstract

In this talk, we will present a novel iterative convolution-thresholding method (ICTM) that is applicable to a wide range of variational models for image segmentation and topology optimization. A variational model usually minimizes an energy functional consisting of a fidelity term and a regularization term. In the ICTM, the interface is implicitly represented by their characteristic functions and the regularized term is approximated by a functional of characteristic functions in terms of heat kernel convolution. This allows us to design an iterative convolution-thresholding method to minimize the approximate energy. The method is simple, efficient and enjoys the energy-decaying property. Numerical experiments show that the method is easy to implement, robust and applicable to a wide class of models.

Date: 7 February 2020 (Friday)

Time: 2:30pm – 3:30pm

Venue: Room 222, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin

All are Welcome