

MS Final Presentation

Student: Daniel Kessler

Advisor: Weihong Guo

Title: *Tensor Deblurring via Tensor Nuclear Norm and Total Variation*

Abstract

Blurs occur in images due to a variety of causes. Even if the details of the blur are known, recovering the original sharp image is a difficult inverse problem due to noise. Multidimensional images, represented as multidimensional tensors, suffer from blurring problems as well. These require special treatment, as they have multiple dimensions. Some results indicate that the Tensor Nuclear Norm regularity is a good condition for multidimensional tensor recovery. We propose a novel method to deblur multidimensional tensors, based on minimizing the TNN and imposing Total Variation (TV) regularity. Preliminary results show some promise for the recovery of these higher dimensional structures.