

VICENT CASELLES

Variational Models in Image Processing

The purpose of this series of lectures is to discuss some variational models for different image processing tasks. Specifically, we will cover the following topics:

1. An introduction to total variation models in image processing, covering the restoration problem and optical flow computation.
2. We will consider variational formulation for exemplar based image inpainting and discuss its qualitative properties.
3. We will discuss a variational model for video editing, that is, for object insertion and propagation along the video sequence.
4. Finally, we will discuss a variational model for contrast enhancement of color images.