PDE and Variational Approaches to Image Processing

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Abstract

In this paper, I present a framework for an approach to image processing based on partial differential equations and variational methods. The formalization and development of existence, uniqueness, and regularity theories for PDEs has made it convenient to discuss image processing in the language of PDE theory. By representing an image as a function on a continuous space, we can view motion as the evolution of a partial differential equation.

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