Scale Space and Variational Methods in Computer Vision

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Message from the Guest Editor

Scale space and variational methods in computer vision is one of the techniques to achieve this goal. It mainly focuses on multiscale analysis of image content, partial differential equations, geometric methods, variational methods, and optimization. In the imaging world, distant objects are projected at a smaller size and near objects at a larger size. To extract meaningful information, images or videos should be processed at all levels of scales simultaneously. Scale–space theory in computer vision describes a formal way of representation and computation of features from image data at all scales. Variational methods are a specific class of optimization methods of cost functions in higher dimensions. Instead of defining a heuristic sequence of processing, the variational method enables the derivation of algorithms automatically. Many problems in computer vision can be formulated as variational methods. Examples are denoising, segmentation, super-resolution, tracking, object detection, optical flow estimation, depth estimation, 3D reconstruction, etc.

Special Issue

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Message from the Editor-in-Chief

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