Landmark-Based Image Analysis

Using Geometric and Intensity Models

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This is the first comprehensive treatment of the extraction of landmarks from multimodality images and the use of these features for elastic image registration. Emphasis is on model-based approaches, *i.e.* on the use of explicitly represented knowledge in computer vision. Both geometric models (describing the shape of objects) and intensity models (directly representing the image intensities) are utilized. The work describes theoretical foundations, computational and algorithmic issues, as well as practical applications, notably in medicine (neurosurgery, radiology), remote sensing, and industrial automation. Connections with computer graphics and artificial intelligence are pointed out.

Audience
This volume will be of interest to readers seeking an introduction and overview of landmark-based image analysis, and in particular to graduate students and researchers in computer science, engineering, computer vision, and medical image analysis.