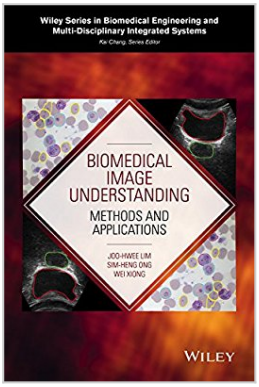


# Biomedical Image Understanding: Methods and Applications (Wiley Series in Biomedical Engineering and Multi-Disciplinary Integrated Systems.)

*By Joo-Hwee Lim, Sim-Heng Ong, Wei Xiong*



**Biomedical Image Understanding: Methods and Applications (Wiley Series in Biomedical Engineering and Multi-Disciplinary Integrated Systems.)** By Joo-Hwee Lim, Sim-Heng Ong, Wei Xiong

**A comprehensive guide to understanding and interpreting digital images in medical and functional applications**

*Biomedical Image Understanding* focuses on image understanding and semantic interpretation, with clear introductions to related concepts, in-depth theoretical analysis, and detailed descriptions of important biomedical applications. It covers image processing, image filtering, enhancement, de-noising, restoration, and reconstruction; image segmentation and feature extraction; registration; clustering, pattern classification, and data fusion.

With contributions from experts in China, France, Italy, Japan, Singapore, the United Kingdom, and the United States, Biomedical Image Understanding:

- Addresses motion tracking and knowledge-based systems, two areas which are not covered extensively elsewhere in a biomedical context
- Describes important clinical applications, such as virtual colonoscopy, ocular disease diagnosis, and liver tumor detection
- Contains twelve self-contained chapters, each with an introduction to basic concepts, principles, and methods, and a case study or application

With over 150 diagrams and illustrations, this bookis an essential resource for the reader interested in rapidly advancing research and applications in biomedical image understanding.

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## Editorial Review

From the Back Cover

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**Joo-Hwee Lim** is the Head of the Visual Computing Department at the Institute for Infocomm Research ($I^2R$), A*STAR, Singapore, and an Adjunct Associate Professor at the School of Computer Engineering, Nanyang Technological University, Singapore. He is the co-Director of IPAL (Image & Pervasive Access Laboratory), a French-Singapore Joint Lab. He established the medical image analysis group at $I^2R$ in 2006, collaborating with clinicians closely, resulting in strong competency in ocular imaging, brain image analysis, cell image understanding etc at the institute. He has published over 200 journal and conference papers and owns 17 patents in the areas of computer vision, cognitive vision, pattern recognition, and medical image analysis.

**Sim-Heng Ong** is an Associate Professor in the Departments of Electrical Engineering and Bioengineering at the National University of Singapore. He received his PhD from the University of Sydney, Australia. His major research areas are computer vision and medical image analysis and visualization. He has worked extensively with clinicians in developing algorithms for a variety of medical applications, and has publications in many highly respected journals and conferences.
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