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There are many areas of science and engineering where three-dimensional (3-D) discrete data are collected and analyzed, such as medical imaging and geoscience. To design and to prove the validity of computational procedures for processing and analysis of such data, the need for a mathematical theory and algorithms for image processing is essential.

Self-contained, accessible, and mathematically precise, this book serves as an introduction to the field of 3-D digital image processing, providing information that can be used immediately in practical algorithms for the analysis of 3-D data sets. By presenting problems of processing and analysis of practical 3-D data sets, readers will find the descriptions clear and accessible as concepts and methods are carefully introduced, defined, and illustrated with examples.

A key textbook for graduates and resource for all working in areas of multidimensional image processing and analysis, this book is also excellent for self-study for practitioners in the field of 3-D digital image processing.

Content Level » Graduate

Keywords » 3-dimensional digital image processing - 3-dimensional visualization - Medical image processing

Related subjects » Image Processing - Radiology - Theoretical Computer Science

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