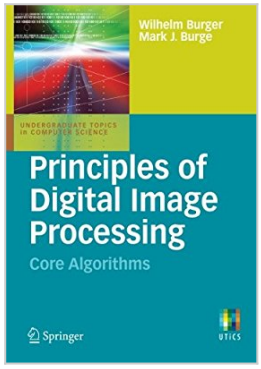

Principles of Digital Image Processing: Core Algorithms (Undergraduate Topics in Computer Science)

By Wilhelm Burger, Mark J. Burge

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This is the second volume of a book series that provides a modern, algori- mic introduction to digital image processing. It is designed to be used both by learners desiring a ?rm foundation on which to build and practitioners in search of critical analysis and modern implementations of the most important techniques. This updated and enhanced paperback edition of our compreh- sive textbook Digital Image Processing: An Algorithmic Approach Using Java packages the original material into a series of compact volumes, thereby s- porting a ?exible sequence of courses in digital image processing. Tailoring the contents to the scope of individual semester courses is also an attempt to p- vide a?ordable (and “backpack-compatible”) textbooks without comprimising the quality and depth of content. This second volume, titled Core Algorithms, extends the introductory - terial presented in the ?rst volume (Fundamental Techniques) with additional techniques that are, nevertheless, part of the standard image processing to- box. A forthcomingthird volume(Advanced Techniques) will extendthis series and add important material beyond the elementary level, suitable for an - vanced undergraduate or even graduate course.

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Editorial Review

Review

From the reviews:

"This text is the second of three volumes by Burger and Burge to provide an algorithmic introduction to digital image processing. … This textbook is for academicians who want a mathematical or theoretical foundation that underlies the methods used, as well as for engineers who are interested in practical implementations of the most important algorithms. The volume is a very nice extension to the material and a worthwhile read." (Minette Carl, ACM Computing Reviews, August, 2009)

“This is the second textbook from authors three-book series for graduate and post-graduate courses covering digital image processing techniques; earlier the material appeared in one comprehensive volume Digital Image Processing: An Algorithmic Introduction using Java. This volume covers regions in binary images, curve and corner detecting, color spaces and quantization, transformations … and comparing/matching of images. The presentation is very algorithmic and expects hands-on experimentation with presented notions and algorithms, every chapter ends with exercises … .” (Jaak Henno, Zentralblatt MATH, Vol. 1185, 2010)

From the Back Cover

This easy-to-follow textbook is the second of three volumes which provide a modern, algorithmic introduction to digital image processing, designed to be used both by learners desiring a firm foundation on which to build, and practitioners in search of critical analysis and concrete implementations of the most important techniques. This volume extends the introductory material presented in the first volume (*Fundamental Techniques*) with additional techniques that form part of the standard image-processing toolbox.

Features and topics:

- Practical examples and carefully constructed chapter-ending exercises drawn from the authors' years of experience teaching this material
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- Additional presentation tools for instructors including a complete set of figures, tables, and mathematical elements

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Wilhelm Burger, Ph.D., is the director of the Digital Media degree programs at the Upper Austria University of Applied Sciences at Hagenberg.
Mark J. Burge, Ph.D., is a senior principal in the Center for National Security and Intelligence at Noblis in Washington, D.C.

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