



# Digital Image Processing

By Rafael C. Gonzalez, Paul Wintz

Download now

Read Online 

**Digital Image Processing** By Rafael C. Gonzalez, Paul Wintz

**Introduce your students to image processing with the industry's most prized text**

For 40 years, *Image Processing* has been the foundational text for the study of digital image processing. The book is suited for students at the college senior and first-year graduate level with prior background in mathematical analysis, vectors, matrices, probability, statistics, linear systems, and computer programming. As in all earlier editions, the focus of this edition of the book is on fundamentals.

The **4th Edition**, which celebrates the book's 40th anniversary, is based on an extensive survey of faculty, students, and independent readers in 150 institutions from 30 countries. Their feedback led to expanded or new coverage of topics such as deep learning and deep neural networks, including convolutional neural nets, the scale-invariant feature transform (SIFT), maximally-stable extremal regions (MSERs), graph cuts, k-means clustering and superpixels, active contours (snakes and level sets), and exact histogram matching. Major improvements were made in reorganizing the material on image transforms into a more cohesive presentation, and in the discussion of spatial kernels and spatial filtering. Major revisions and additions were made to examples and homework exercises throughout the book. For the first time, we added MATLAB projects at the end of every chapter, and compiled support packages for you and your teacher containing, solutions, image databases, and sample code.

 [Download Digital Image Processing ...pdf](#)

 [Read Online Digital Image Processing ...pdf](#)

# Digital Image Processing

By Rafael C. Gonzalez, Paul Wintz

**Digital Image Processing** By Rafael C. Gonzalez, Paul Wintz

## **Introduce your students to image processing with the industry's most prized text**

For 40 years, *Image Processing* has been the foundational text for the study of digital image processing. The book is suited for students at the college senior and first-year graduate level with prior background in mathematical analysis, vectors, matrices, probability, statistics, linear systems, and computer programming. As in all earlier editions, the focus of this edition of the book is on fundamentals.

The **4th Edition**, which celebrates the book's 40th anniversary, is based on an extensive survey of faculty, students, and independent readers in 150 institutions from 30 countries. Their feedback led to expanded or new coverage of topics such as deep learning and deep neural networks, including convolutional neural nets, the scale-invariant feature transform (SIFT), maximally-stable extremal regions (MSERs), graph cuts, k-means clustering and superpixels, active contours (snakes and level sets), and exact histogram matching. Major improvements were made in reorganizing the material on image transforms into a more cohesive presentation, and in the discussion of spatial kernels and spatial filtering. Major revisions and additions were made to examples and homework exercises throughout the book. For the first time, we added MATLAB projects at the end of every chapter, and compiled support packages for you and your teacher containing, solutions, image databases, and sample code.

## **Digital Image Processing By Rafael C. Gonzalez, Paul Wintz Bibliography**

- Sales Rank: #1444121 in Books
- Published on: 1978-12
- Original language: English
- Number of items: 1
- Binding: Paperback
- 431 pages

 [Download Digital Image Processing ...pdf](#)

 [Read Online Digital Image Processing ...pdf](#)

## Editorial Review

### About the Author

**Rafael C. Gonzalez** received the B.S.E.E. degree from the University of Miami in 1965 and the M.E. and Ph.D. degrees in electrical engineering from the University of Florida, Gainesville, in 1967 and 1970, respectively. He joined the Electrical and Computer Engineering Department at University of Tennessee, Knoxville (UTK) in 1970, where he became Associate Professor in 1973, Professor in 1978, and Distinguished Service Professor in 1984. He served as Chairman of the department from 1994 through 1997. He is currently a Professor Emeritus at UTK.

Gonzalez is the founder of the Image & Pattern Analysis Laboratory and the Robotics & Computer Vision Laboratory at the University of Tennessee. He also founded Perceptics Corporation in 1982 and was its president until 1992. The last three years of this period were spent under a full-time employment contract with Westinghouse Corporation, who acquired the company in 1989.

Under his direction, Perceptics became highly successful in image processing, computer vision, and laser disk storage technology. In its initial ten years, Perceptics introduced a series of innovative products, including: The world's first commercially-available computer vision system for automatically reading the license plate on moving vehicles; a series of large-scale image processing and archiving systems used by the U.S. Navy at six different manufacturing sites throughout the country to inspect the rocket motors of missiles in the Trident II Submarine Program; the market leading family of imaging boards for advanced Macintosh computers; and a line of trillion-byte laserdisc products.

He is a frequent consultant to industry and government in the areas of pattern recognition, image processing, and machine learning. His academic honors for work in these fields include the 1977 UTK College of Engineering Faculty Achievement Award; the 1978 UTK Chancellor's Research Scholar Award; the 1980 Magnavox Engineering Professor Award; and the 1980 M.E. Brooks Distinguished Professor Award. In 1981 he became an IBM Professor at the University of Tennessee and in 1984 he was named a Distinguished Service Professor there. He was awarded a Distinguished Alumnus Award by the University of Miami in 1985, the Phi Kappa Phi Scholar Award in 1986, and the University of Tennessee's Nathan W. Dougherty Award for Excellence in Engineering in 1992.

Honors for industrial accomplishment include the 1987 IEEE Outstanding Engineer Award for Commercial Development in Tennessee; the 1988 Albert Rose Nat'l Award for Excellence in Commercial Image Processing; the 1989 B. Otto Wheelley Award for Excellence in Technology Transfer; the 1989 Coopers and Lybrand Entrepreneur of the Year Award; the 1992 IEEE Region 3 Outstanding Engineer Award; and the 1993 Automated Imaging Association National Award for Technology Development.

Gonzalez is author or co-author of over 100 technical articles, two edited books, and four textbooks in the fields of pattern recognition, image processing and robotics. His books are used in over 500 universities and research institutions throughout the world. He is listed in the prestigious *Marquis Who's Who in America*, *Marquis Who's Who in Engineering*, *Marquis Who's Who in the World*, and in 10 other national and international biographical citations. He is the co-holder of two U.S. Patents, and has been an associate editor of the *IEEE Transactions on Systems, Man and Cybernetics*, and the *International Journal of Computer and Information Sciences*. He is a member of numerous professional and honorary societies, including Tau Beta Pi, Phi Kappa Phi, Eta Kappa Nu, and Sigma Xi. He is a Fellow of the IEEE.

**Richard E. Woods** earned his B.S., M.S., and Ph.D. degrees in Electrical Engineering from the University of Tennessee, Knoxville in 1975, 1977, and 1980, respectively. He became an Assistant Professor of Electrical Engineering and Computer Science in 1981 and was recognized as a Distinguished Engineering Alumnus in 1986.

A veteran hardware and software developer, Dr. Woods has been involved in the founding of several high-technology startups, including Perceptics Corporation, where he was responsible for the development of the company's quantitative image analysis and autonomous decision-making products; MedData Interactive, a high technology company specializing in the development of handheld computer systems for medical applications; and Interaptics, an internet-based company that designs desktop and handheld computer applications.

Dr. Woods currently serves on several nonprofit educational and media-related boards, including Johnson University, and was recently a summer English instructor at the Beijing Institute of Technology. He is the holder of a U.S. Patent in the area of digital image processing and has published two textbooks, as well as numerous articles related to digital signal processing. Dr. Woods is a member of several professional societies, including Tau Beta Pi, Phi Kappa Phi, and the IEEE.

## **Users Review**

### **From reader reviews:**

#### **Linda Cunningham:**

Do you have favorite book? If you have, what is your favorite's book? Guide is very important thing for us to be aware of everything in the world. Each publication has different aim or goal; it means that e-book has different type. Some people feel enjoy to spend their a chance to read a book. They are reading whatever they get because their hobby is reading a book. Consider the person who don't like reading a book? Sometime, man feel need book when they found difficult problem or exercise. Well, probably you should have this Digital Image Processing.

#### **Leigh Grayer:**

The reserve untitled Digital Image Processing is the guide that recommended to you to learn. You can see the quality of the book content that will be shown to a person. The language that article author use to explained their ideas are easily to understand. The article author was did a lot of analysis when write the book, to ensure the information that they share to you personally is absolutely accurate. You also could get the e-book of Digital Image Processing from the publisher to make you a lot more enjoy free time.

#### **Robert Hatch:**

Do you like reading a publication? Confuse to looking for your chosen book? Or your book ended up being rare? Why so many problem for the book? But any kind of people feel that they enjoy for reading. Some people likes reading through, not only science book and also novel and Digital Image Processing or maybe others sources were given expertise for you. After you know how the truly great a book, you feel desire to read more and more. Science guide was created for teacher or maybe students especially. Those ebooks are helping them to add their knowledge. In other case, beside science reserve, any other book likes Digital

Image Processing to make your spare time considerably more colorful. Many types of book like here.

**Daniel Pitts:**

A lot of e-book has printed but it is different. You can get it by web on social media. You can choose the best book for you, science, amusing, novel, or whatever by means of searching from it. It is referred to as of book Digital Image Processing. Contain your knowledge by it. Without leaving behind the printed book, it may add your knowledge and make you happier to read. It is most critical that, you must aware about e-book. It can bring you from one location to other place.

**Download and Read Online Digital Image Processing By Rafael C. Gonzalez, Paul Wintz #TDYK02BWN9H**

## **Read Digital Image Processing By Rafael C. Gonzalez, Paul Wintz for online ebook**

Digital Image Processing By Rafael C. Gonzalez, Paul Wintz Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Digital Image Processing By Rafael C. Gonzalez, Paul Wintz books to read online.

### **Online Digital Image Processing By Rafael C. Gonzalez, Paul Wintz ebook PDF download**

**Digital Image Processing By Rafael C. Gonzalez, Paul Wintz Doc**

**Digital Image Processing By Rafael C. Gonzalez, Paul Wintz Mobipocket**

**Digital Image Processing By Rafael C. Gonzalez, Paul Wintz EPub**