Modern Algorithms for Image Processing

Computer Imagery by Example Using C#

- Teaches efficient methods of digital image processing that can be used for improving the quality of images and for recognizing and measuring objects
- Provides project source code you can immediately use in your work
- Written by a renowned expert who has worked and taught in the field of image processing for many decades

Utilize modern methods for digital image processing and take advantage of the many time-saving templates provided for all of the projects in this book. Modern Algorithms for Image Processing approaches the topic of image processing through teaching by example. Throughout the book, you will create projects that resolve typical problems that you might encounter in the world of digital image processing. Some projects teach you methods for addressing the quality of images, such as reducing random errors or noise and suppressing pulse noise (salt and pepper), a method valuable for improving the quality of historical images. Other methods detail how to correct inhomogeneous illumination, not by means of subtracting the mean illumination, but through division, a far more efficient method. Additional projects cover contrasting, and a process for edge detection, more efficient than Canny's, for detecting edges in color images directly, without converting them into black and white images. What You’ll Learn

- Apply innovative methods for suppressing pulse noise, enhancing contrast, and edge detection
- Know the pros and cons of enlisting a particular method
- Use new approaches for image compression and recognizing circles in photos
- Utilize a valuable method for straightening photos of paintings taken at an oblique angle
- Understand the problem statement of polygonal approximation of boundaries or edges and its solution
- Use a new method for detecting bicycles in traffic
- Access complete source code examples in C# for all of the projects

Who This Book Is For

- C# developers who work with digital image processing or are interested in informatics
- The reader should have programming experience and access to an Integrated Development Environment (IDE), ideally .NET.

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