About this Book

Utilize modern methods for digital image processing and take advantage of the many time-saving templates provided for all of the projects included 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 example projects teach you how to address the quality of images, such as reducing random errors or noise **by means of methods not described in text books. Also a new efficient method for suppressing pulse noise ("salt and pepper") is suggested. It is important for improving the quality of historian photographs.** Other methods will teach you how to correct inhomogeneous illumination, not by means of subtracting the mean illumination, but through division, which is a far more efficient method. Additional projects cover **a new method of** contrasting, **a new method of** edge detection **which is simpler, yet more efficient than Canny's well-known method because it detects edges in color images directly, without converting them into a black and white image**. **Some other projects** are important concepts to understand for image analysis.

This book does not prove or disprove theorems, but instead details suggested methods to help you learn valuable concepts and how to customize your own image processing projects.

What You'll Learn

- Know the pros and cons of enlisting a particular method
- Use new methods for image compression and recognizing circles in photos
- Utilize a method for straightening photos of paintings taken at an oblique angle, a critical concept to understand when using flash at a right angle
- Understand the problem statement of polygonal approximation of boundaries or edges and its solution
- **Use a method of detecting bicycles in traffic**
- Access complete source code examples of all projects on GitHub

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.