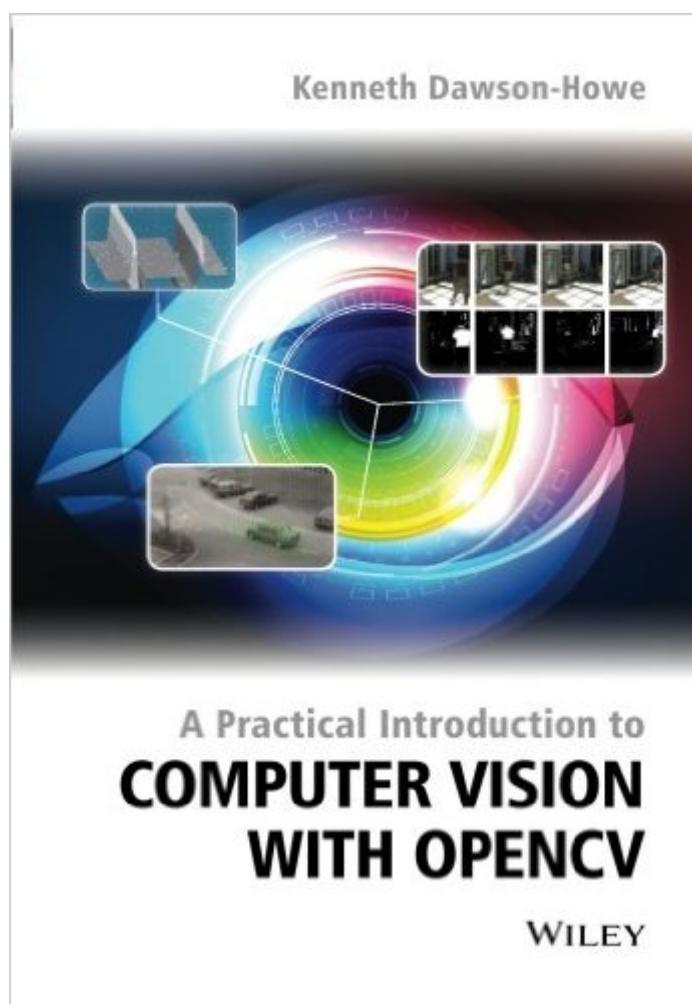


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# A Practical Introduction To Computer Vision With OpenCV (Wiley-IS&T Series In Imaging Science And Technology)



## Synopsis

Explains the theory behind basic computer vision and provides a bridge from the theory to practical implementation using the industry standard OpenCV libraries Computer Vision is a rapidly expanding area and it is becoming progressively easier for developers to make use of this field due to the ready availability of high quality libraries (such as OpenCV 2). This text is intended to facilitate the practical use of computer vision with the goal being to bridge the gap between the theory and the practical implementation of computer vision. The book will explain how to use the relevant OpenCV library routines and will be accompanied by a full working program including the code snippets from the text. This textbook is a heavily illustrated, practical introduction to an exciting field, the applications of which are becoming almost ubiquitous. We are now surrounded by cameras, for example cameras on computers & tablets/ cameras built into our mobile phones/ cameras in games consoles; cameras imaging difficult modalities (such as ultrasound, X-ray, MRI) in hospitals, and surveillance cameras. This book is concerned with helping the next generation of computer developers to make use of all these images in order to develop systems which are more intuitive and interact with us in more intelligent ways. Explains the theory behind basic computer vision and provides a bridge from the theory to practical implementation using the industry standard OpenCV libraries Offers an introduction to computer vision, with enough theory to make clear how the various algorithms work but with an emphasis on practical programming issues Provides enough material for a one semester course in computer vision at senior undergraduate and Masters levels Includes the basics of cameras and images and image processing to remove noise, before moving on to topics such as image histogramming; binary imaging; video processing to detect and model moving objects; geometric operations & camera models; edge detection; features detection; recognition in images Contains a large number of vision application problems to provide students with the opportunity to solve real problems. Images or videos for these problems are provided in the resources associated with this book which include an enhanced eBook

## Book Information

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## Customer Reviews

A great practical hands on guide to OpenCV, really approachable without a strong background in Computer Vision. I like the background information as much as the examples. Don't expect the examples to be all encompassing, I found them to serve as a great launching point for my own experiments.

This book is an introduction, not only to the OpenCV library, but to the complexity of the problems computer vision systems are attempting to solve. The descriptions of the various OpenCV API calls are accompanied by explanations of why there is more than one way of performing certain functions, and under what circumstances each might yield the best results. For example, attempting to determine the outline of an object using simple thresholding may give misleading results if the lighting of the object in question was uneven. I also valued the general explanations of the underlying algorithms as an aid to understanding why one would use B rather than A. Many many references are supplied for those who wish to study the algorithms in detail. This book is not an all-inclusive reference to computer vision. It's a good way to get started for someone who knows little or nothing about the field.

The book provides no explanation in the theory part and very minimum OpenCV code provided.

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