Machine Vision

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This book is an accessible and comprehensive introduction to machine vision. It provides all the necessary theoretical tools and shows how they are applied in actual image processing and machine vision systems. A key feature is the inclusion of many programming exercises that give insights into the development of practical image processing algorithms. The authors begin with a review of mathematical principles and go on to discuss key issues in image processing such as the description and characterization of images, edge detection, restoration and feature extraction, segmentation, texture and shape. They also discuss image matching, statistical pattern recognition, clustering, and syntactic pattern recognition.

Important applications are described, including optical character recognition and automatic target recognition. A CD-ROM containing software and data used in the book is included. The book is aimed at graduate students in electrical engineering, computer science, and mathematics. It will also be a useful reference for practitioners.

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