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Nota di contenuto	Intro -- Cover Page -- Title Page -- Copyright Page -- Dedication Page -- About the Author -- About the Technical Reviewer -- Acknowledgements -- Preface -- Errata -- Table of Contents -- 1. Introduction to Computer Vision -- Introduction -- Structure -- Introduction to Computer Vision -- Applications of Computer Vision -- Python -- OpenCV. -- Brief history of OpenCV -- OpenCV 4.7 -- Supporting Libraries -- NumPy -- Matplotlib -- SciPy -- Scikit-Learn -- Scikit-Image -- Mahotas -- TensorFlow -- Keras -- Dlib -- Environment Setup -- Installing Python -- Installing Python on Windows -- Installing Python on Ubuntu and Mac -- Package Manager -- Installing libraries -- Installing Mahotas -- Installing OpenCV -- Verifying our installation -- IDE -- Documentation -- Conclusion -- Test Your Understanding -- 2. Getting Started with Images -- Structure -- Introduction to images and pixels -- Loading and displaying images -- Imread() -- Imshow -- Imwrite -- WaitKey -- DestroyAllWindows -- Manipulating images with pixels -- Accessing individual pixels -- Accessing a region of interest (ROI) -- Drawing in OpenCV -- Line -- Rectangle -- Circle -- Text -- Conclusion -- Points to remember -- Test your understanding -- 3. Image Processing Fundamentals -- Structure -- Geometric transformations -- Image translation -- Rotation -- Scaling -- Flipping -- Shearing -- Cropping -- Arithmetic

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Sommario/riassunto

"Mastering OpenCV with Python" immerses you in the captivating realm of computer vision, with a structured approach that equips you with the knowledge and skills essential for success in this rapidly evolving field. From grasping the fundamental concepts of image processing and OpenCV to mastering advanced techniques such as neural networks and object detection, you will gain a comprehensive understanding. Each chapter is enriched with hands-on exercises and real-world projects, ensuring the acquisition of practical skills that can be immediately applied in your professional journey.

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Autore	Peka Libor
Titolo	Optimization: An Introduction / / by Libor Peka
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Collana	Studies in Systems, Decision and Control, , 2198-4190 ; ; 239
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Formato	Materiale a stampa
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Nota di contenuto	Introduction -- Analytic methods -- Iterative methods -- Linear programming -- Dynamic programming -- Introduction to the decision and game theory.
Sommario/riassunto	This book covers analytic methods to solve one-dimensional and multi-dimensional problems with or without possible constraints, iterative numerical techniques based on the gradient calculation or its estimation, and numerical methods that do not require the knowledge of gradient and use only comparative iterative tests. This book provides the reader with a basic introduction to some traditional parameter optimization techniques. The presented problems and their solution methods represent a core of the parameter optimization reign since the 17th century to the 1970s. Linear and integer programming via the simplex table is also introduced. Two simple selected problems that are solved using dynamic programming principles are also given to the reader. A general approach to constraints via penalty and barrier functions is introduced. A concise introduction to the decision and game theory concludes the book. The book does not intend to provide the reader with a rigorous mathematic derivation of the presented

methods. Its aim is instead to bring to the attention essential optimization tools for practitioners and undergraduate students and introduce selected well-established techniques to them when optimizing parameters of various models. Each method is described theoretically and supported by one or more numerical examples that vary from academic ones, through business economics to funny real-world problems that attract a broad audience. A sketch of Matlab code also follows numerical-based techniques. The author believes that the book finds its place in the libraries of many undergraduate students of various technical study programs and modern, thoughtful people worldwide, regardless of their expertise.