1. Record Nr.	UNINA9911019714703321
Autore	Lei Tao
Titolo	Image segmentation : principles, techniques, and applications / / Tao Lei
Pubbl/distr/stampa	Hoboken, NJ : , : Wiley-Blackwell, , 2023
ISBN	9781119859024
	1119859026
	9781119859031
	1119859034
	9781119859048
	1119859042
Descrizione fisica	1 online resource
Disciplina	006.6
Soggetti	Image segmentation
	Image segmentation - Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Image Segmentation Summarizes and improves new theory, methods, and applications of current image segmentation approaches, written by leaders in the field The process of image segmentation divides an image into different regions based on the characteristics of pixels, resulting in a simplified image that can be more efficiently analyzed. Image segmentation has wide applications in numerous fields ranging from industry detection and bio-medicine to intelligent transportation and architecture. Image Segmentation: Principles, Techniques, and Applications is an up-to-date collection of recent techniques and methods devoted to the field of computer vision. Covering fundamental concepts, new theories and approaches, and a variety of practical applications including medical imaging, remote sensing, fuzzy clustering, and watershed transform. In-depth chapters present innovative methods developed by the authors-such as convolutional neural networks, graph convolutional networks, deformable convolution, and model compression-to assist graduate students and

researchers apply and improve image segmentation in their work. * Describes basic principles of image segmentation and related mathematical methods such as clustering, neural networks, and mathematical morphology. * Introduces new methods for achieving rapid and accurate image segmentation based on classic image processing and machine learning theory. * Presents techniques for improved convolutional neural networks for scene segmentation, object recognition, and change detection, etc. * Highlights the effect of image segmentation in various application scenarios such as traffic image analysis, medical image analysis, remote sensing applications, and material analysis, etc. Image Segmentation: Principles, Techniques, and Applications is an essential resource for undergraduate and graduate courses such as image and video processing, computer vision, and digital signal processing, as well as researchers working in computer vision and image analysis looking to improve their techniques and methods.