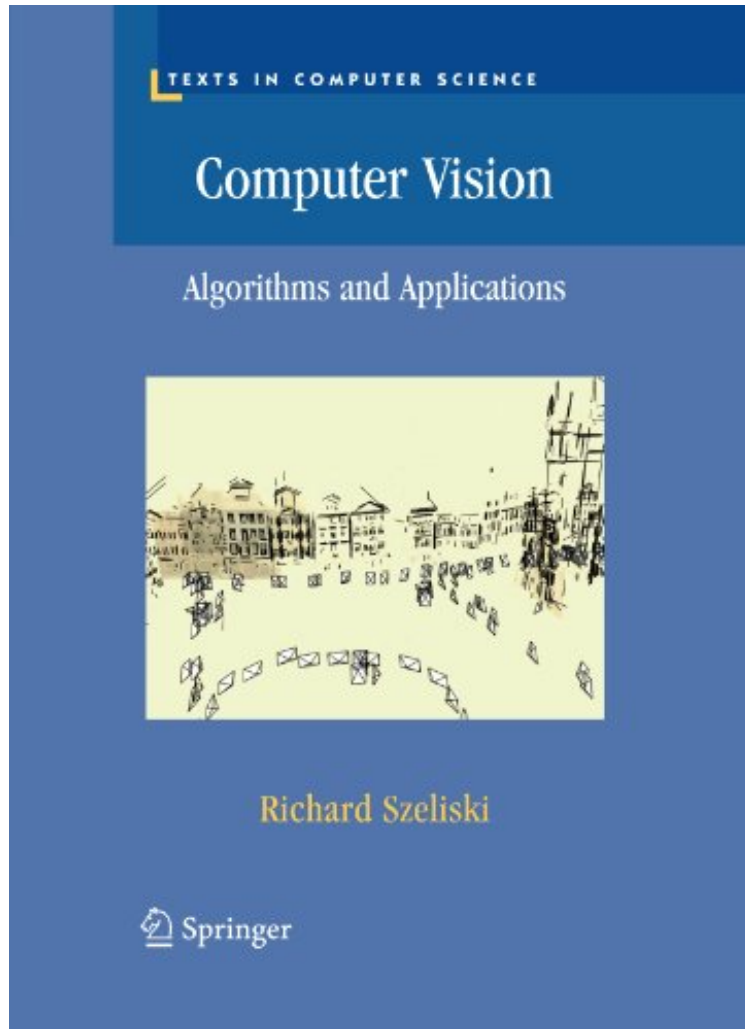


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# Computer Vision: Algorithms and Applications (Texts in Computer Science)

Von Richard Szeliski

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**Von Richard Szeliski : Computer Vision: Algorithms and Applications (Texts in Computer Science)** before purchasing it in order to gage whether or not it would be worth my time, and all praised Computer Vision: Algorithms and Applications (Texts in Computer Science):

KundenrezensionenHilfreichste Kundenrezensionen0 von 0 Kunden fanden die folgende Rezension hilfreich. Excellent textbook on modern computer visionVon Udo FreseCovers all novel methods in computer vision, except deep learning which started after the book was published. I very much recommend to use the book and maybe additional papers if deep learning is of interest.9 von 10 Kunden fanden die folgende Rezension hilfreich. Aktuelle

Forschung in einem Sammelwerk Von N. Beuter Das Buch "Computer Vision" von R. Szeliski ist eine riesige Sammlung aktueller Themen zu Bildverarbeitung und Musterklassifikation. Allein das Gewicht und die Größe des Buches weisen auf seinen gewaltigen Inhalt hin. Szeliski schrieb dieses Buch auf Basis seiner Lehrkurse an der University of Washington and Stanford und mit Hilfe vieler Forscher, die ihm Feedback oder Arbeiten zu den Bereichen des Buches gesendet hatten. Das Buch ist vor allem für Studenten der Informatik oder Computer Vision interessierte gedacht. Der Aufbau der Kapitel ist kursartig, so dass zuerst ausführlich die Grundlagen erklärt und anschließend hierlevelige Algorithmen vorgestellt werden. Das Buch ist dabei hilfreich illustriert und zu allen Themenbereichen werden weiterführende Literatur vorgeschlagen, sowie Übungsaufgaben angeboten. Dieses Buch unterscheidet sich insofern von anderen Computer Vision Büchern, dass auch viele recht aktuelle Algorithmen und häufig verwendete Verfahren aus der Forschung in dem Buch vorgestellt werden. Das Buch eignet sich somit hervorragend für Studenten, die gerade mit Computer Vision angefangen haben und einen Einblick in weiterführende Themen bekommen möchten. Es eignet sich aber auch als Sammlung oder Nachschlagewerk für alle anderen, die in diesem Bereich arbeiten. Ein kleiner Wermutstropfen ist das hohe Gewicht des Buches, so dass man es nicht mit sich herumtragen möchte und man muss teilweise gewillt sein, sich in die weiterführende Literatur einzulesen, um jeden Algorithmus im Detail zu verstehen. Abgesehen davon würde ich das Buch als ausführlichen Überblick durchaus empfehlen. Die Kapitel beinhalten die folgenden Themen: - Introduction - Image formation - Image processing - Feature detection and matching - Segmentation - Feature-based alignment - Structure from motion - Dense motion estimation - Image stitching - Computational photography - Stereo correspondence - 3D reconstruction - Image based rendering - Recognition

0 von 0 Kunden fanden die folgende Rezension hilfreich. Klasse Buch Von Benedikt Kaiser Dieses Buch gibt einen hervorragenden Überblick über ganz verschiedene Teilbereiche der Computer Vision. Die zahlreichen Referenzen weisen unmittelbar auf die relevante Literatur zur Vertiefung hin.

Kurzbeschreibung Computer Vision: Algorithms and Applications explores the variety of techniques commonly used to analyze and interpret images. It also describes challenging real-world applications where vision is being successfully used, both for specialized applications such as medical imaging, and for fun, consumer-level tasks such as image editing and stitching, which students can apply to their own personal photos and videos. More than just a source of recipes, this exceptionally authoritative and comprehensive textbook/reference also takes a scientific approach to basic vision problems, formulating physical models of the imaging process before inverting them to produce descriptions of a scene. These problems are also analyzed using statistical models and solved using rigorous engineering techniques. Topics and features: structured to support active curricula and project-oriented courses, with tips in the Introduction for using the book in a variety of customized courses; presents exercises at the end of each chapter with a heavy emphasis on testing algorithms and containing numerous suggestions for small mid-term projects; provides additional material and more detailed mathematical topics in the Appendices, which cover linear algebra, numerical techniques, and Bayesian estimation theory; suggests additional reading at the end of each chapter, including the latest research in each sub-field, in addition to a full Bibliography at the end of the book; supplies supplementary course material for students at the associated website, <http://szeliski.org/Book/>. Suitable for an upper-level undergraduate or graduate-level course in computer science or engineering, this textbook focuses on basic techniques that work under real-world conditions and encourages students to push their creative boundaries. Its design and exposition also make it eminently suitable as a unique reference to the fundamental techniques and current research literature in computer vision. Pressestimmen From the reviews: This large work by Szeliski (Microsoft Research), an experienced computer vision researcher and instructor, contains hundreds of glossy color photos that illustrate the variety of techniques used to analyze and interpret images. It is suitable for teaching a senior-level undergraduate course in computer vision or graduate courses covering the more demanding material. Its primary use will be as a general reference to the fundamental techniques and recent research literature for graduate students, faculty/researchers, and professionals. Summing Up: Recommended. Upper-division undergraduates and above. (C. Tappert, Choice, Vol. 48 (9), May, 2011) The aim of this book is to provide a course in computer vision for undergraduate students in computer science or electrical engineering. The focus is on algorithms and applications. The mathematics covered is nicely presented. Each chapter contains exercises and references to additional reading. The book also contains many references to resources on the Internet. (Lisbeth Fajstrup, Zentralblatt MATH, Vol. 1219, 2011) The main interests of Richard Szeliski's book is to give a up-to-date overview of the state of the art. a valuable resource for teaching computer vision at either the undergraduate or graduate level. an interesting read for any student or engineer who wants a broad introduction to the field of computer vision. From a teaching point of view, the book is a valuable resource, offering an extended list of exercises, project proposals, and appealing applications of computer vision techniques. (Sebastien Lefevre, ACM Computing s, July, 2011) Kurzbeschreibung Computer Vision: Algorithms and Applications explores the variety of techniques commonly used to analyze and interpret images. It also describes challenging real-world applications where vision is being successfully used, both for specialized applications such as

medical imaging, and for fun, consumer-level tasks such as image editing and stitching, which students can apply to their own personal photos and videos. More than just a source of recipes, this exceptionally authoritative and comprehensive textbook/reference also takes a scientific approach to basic vision problems, formulating physical models of the imaging process before inverting them to produce descriptions of a scene. These problems are also analyzed using statistical models and solved using rigorous engineering techniques. Topics and features: structured to support active curricula and project-oriented courses, with tips in the Introduction for using the book in a variety of customized courses; presents exercises at the end of each chapter with a heavy emphasis on testing algorithms and containing numerous suggestions for small mid-term projects; provides additional material and more detailed mathematical topics in the Appendices, which cover linear algebra, numerical techniques, and Bayesian estimation theory; suggests additional reading at the end of each chapter, including the latest research in each sub-field, in addition to a full Bibliography at the end of the book; supplies supplementary course material for students at the associated website, <http://szeliski.org/Book/>. Suitable for an upper-level undergraduate or graduate-level course in computer science or engineering, this textbook focuses on basic techniques that work under real-world conditions and encourages students to push their creative boundaries. Its design and exposition also make it eminently suitable as a unique reference to the fundamental techniques and current research literature in computer vision.