<<计算机视觉>>

图书基本信息

书名：<<计算机视觉>>

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内容概要

计算机视觉是研究如何使人工系统从图像或多维数据中“感知”的科学。
本书是计算机视觉领域的经典教材，内容涉及几何摄像模型、光照和着色、色彩、线性滤波、局部图像特征、纹理、立体相对、运动结构、聚类分割、组合与模型拟合、追踪、配准、平滑表面与骨架、距离数据、图像分类、对象检测与识别、基于图像的建模与渲染、人形研究、图像搜索与检索、优化技术等内容。
与前一版相比，本书简化了部分主题，增加了应用示例，重写了关于现代特性的内容，详述了现代图像编辑技术与对象识别技术。

作者简介

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书籍目录

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章节摘录

版权页： 插图： Inference from Shading Registered images are not essential for radiometric calibration. For example, it is sufficient to have two images where we believe the histogram of Eij values is the same （Grossberg and Nayar 2002）. This occurs, for example, when the images are of the same scene, but are not precisely registered. Patterns of intensity around edges also can reveal calibration （Lin et al. 2004）. There has not been much recent study of lightness constancy algorithms. The basic idea is due to Land and McCann （1971）.Their work was formalized for the computer vision community by Horn （1974）. A variation on Horn's algorithm was constructed by Blake （1985）. This is the lightness algorithm we describe. It appeared originally in a slightly different form, where it was called the Retinex algorithm （Land and McCann 1971）. Retinex was originally intended as a color constancy algorithm. It is surprisingly difficult to analyze （Brainard and Wandell 1986）. Retinex estimates the log-illumination term by subtracting the log-albedo from the log-intensity. This has the disadvantage that we do not impose any struc- tural eonstraints on illumination. This point has largely been ignored, beeause the main focus has been on albedo estimates. However, albedo estimates are likely to be improved by balancing violations of albedo eonstraints with those of illumination constraints. Lightness techniques are not as widely used as they should be, particularly given that there is some evidence that they produce useful information on real images （Brelstaff and Blake 1987）. Classifying illumination versus albedo simply by looking at the magnitude of the gradient is crude, and ignores important cues. Sharp shading changes occur at shadow boundaries or normal discontinuities, but using chromaticity （Funt et al. 1992） or multiple images under different lighting conditions （Weiss 20011 yields improved estimates. One can learn to distinguish illumination from albedo （Freeman et al. 2000）. Discriminative methods to classify edges into albedo or shading help （Tappen et al. 2006b） and chromaticity cues can contribute （Farenzena and Fusiello 2007）.

编辑推荐

《计算机视觉:一种现代方法(第2版)(英文版)》可作为高等院校计算几何、计算机图形学、图像处理、机器人学等专业学生的教材，也可供相关的专业人士阅读。