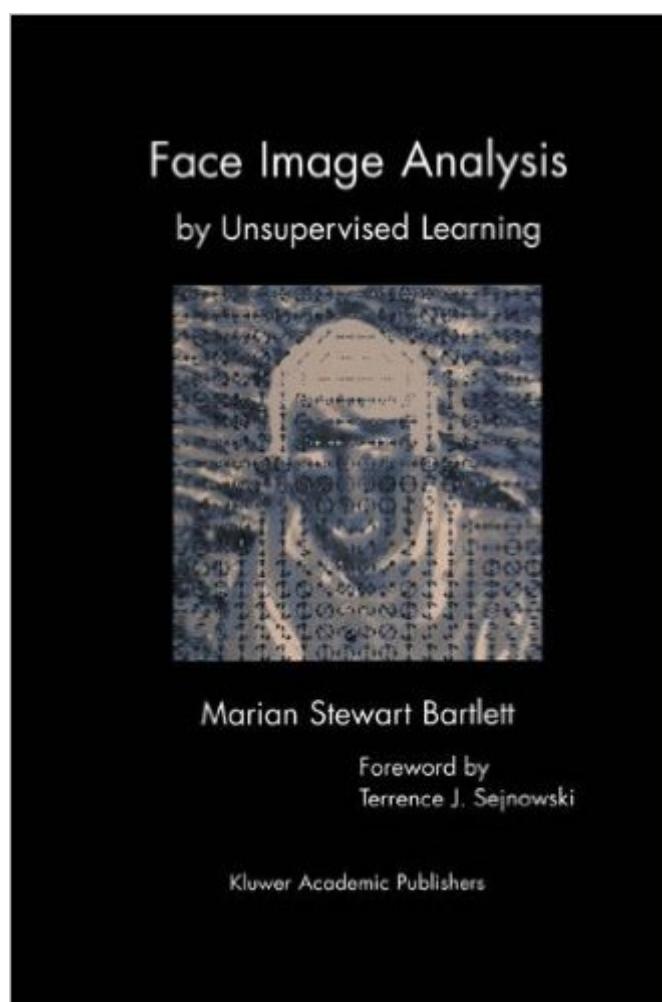


The book was found

Face Image Analysis By Unsupervised Learning (The Springer International Series In Engineering And Computer Science)



Synopsis

Face Image Analysis by Unsupervised Learning explores adaptive approaches to image analysis. It draws upon principles of unsupervised learning and information theory to adapt processing to the immediate task environment. In contrast to more traditional approaches to image analysis in which relevant structure is determined in advance and extracted using hand-engineered techniques, Face Image Analysis by Unsupervised Learning explores methods that have roots in biological vision and/or learn about the image structure directly from the image ensemble. Particular attention is paid to unsupervised learning techniques for encoding the statistical dependencies in the image ensemble. The first part of this volume reviews unsupervised learning, information theory, independent component analysis, and their relation to biological vision. Next, a face image representation using independent component analysis (ICA) is developed, which is an unsupervised learning technique based on optimal information transfer between neurons. The ICA representation is compared to a number of other face representations including eigenfaces and Gabor wavelets on tasks of identity recognition and expression analysis. Finally, methods for learning features that are robust to changes in viewpoint and lighting are presented. These studies provide evidence that encoding input dependencies through unsupervised learning is an effective strategy for face recognition. Face Image Analysis by Unsupervised Learning is suitable as a secondary text for a graduate-level course, and as a reference for researchers and practitioners in industry.

Book Information

Series: The Springer International Series in Engineering and Computer Science (Book 612)

Hardcover: 173 pages

Publisher: Springer; 2001 edition (May 1, 2001)

Language: English

ISBN-10: 0792373480

ISBN-13: 978-0792373483

Product Dimensions: 6.1 x 0.5 x 9.2 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 starsÂ See all reviewsÂ (1 customer review)

Best Sellers Rank: #6,619,492 in Books (See Top 100 in Books) #11 inÂ Books > Computers & Technology > Software > Optical Character Recognition #1144 inÂ Books > Textbooks > Medicine & Health Sciences > Research > Biostatistics #1555 inÂ Books > Computers & Technology > Computer Science > AI & Machine Learning > Computer Vision & Pattern Recognition

Customer Reviews

Marian Stewart Bartlett is a talented young scientist who has done some breakthrough work in the image processing of faces, particularly for the analysis of facial expressions. This book describes the details of that work, and places it in the broader context of other work in unsupervised learning and image processing. A must read for those keeping up with the latest and greatest in face image analysis!

[Download to continue reading...](#)

Face Image Analysis by Unsupervised Learning (The Kluwer International Series in Engineering and Computer Science, Volume 612) (The Springer International Series in Engineering and Computer Science) Face Image Analysis by Unsupervised Learning (The Springer International Series in Engineering and Computer Science) Learning: 25 Learning Techniques for Accelerated Learning - Learn Faster by 300%! (Learning, Memory Techniques, Accelerated Learning, Memory, E Learning, ... Learning Techniques, Exam Preparation) Imagery and Disease: Image-Ca, Image-Sp, Image-Db : A Diagnostic Tool for Behavioral Medicine Web Caching and Its Applications (The Springer International Series in Engineering and Computer Science) Applications of Digital Signal Processing to Audio and Acoustics (The Springer International Series in Engineering and Computer Science) Radiowave Propagation and Smart Antennas for Wireless Communications (The Springer International Series in Engineering and Computer Science) Optical Character Recognition: An Illustrated Guide to the Frontier (The Springer International Series in Engineering and Computer Science) Analog Design Essentials (The Springer International Series in Engineering and Computer Science) Low Power Design Methodologies (The Springer International Series in Engineering and Computer Science) Analog Design for CMOS VLSI Systems (The Springer International Series in Engineering and Computer Science) Learn: Cognitive Psychology - How to Learn, Any Skill or Subject in 21 Days! (Learn, Learning Disability, Learning Games, Learning Techniques, Learning ... Learning, Cognitive Science, Study) HACKING: Beginner's Crash Course - Essential Guide to Practical: Computer Hacking, Hacking for Beginners, & Penetration Testing (Computer Systems, Computer Programming, Computer Science Book 1) Computer Analysis of Images and Patterns: 7th International Conference, CAIP '97, Kiel, Germany, September 10-12, 1997. Proceedings. (Lecture Notes in Computer Science) Computer Analysis of Images and Patterns: 8th International Conference, CAIP'99 Ljubljana, Slovenia, September 1-3, 1999 Proceedings (Lecture Notes in Computer Science) Introductory Logic and Sets for Computer Scientists (International Computer Science Series) The Wounded Healer: Ministry in Contemporary

Society (Doubleday Image Book. an Image Book) Computer-Assisted Image Analysis Cytology (Monographs in Clinical Cytology, Vol. 9) Analog Methods for Computer-Aided Circuit Analysis and Diagnosis (Electrical and Computer Engineering) Particle Size Analysis In Pharmaceutics And Other Industries: Theory And Practice (Prentice Hall International Series in Computer Science)

[Dmca](#)