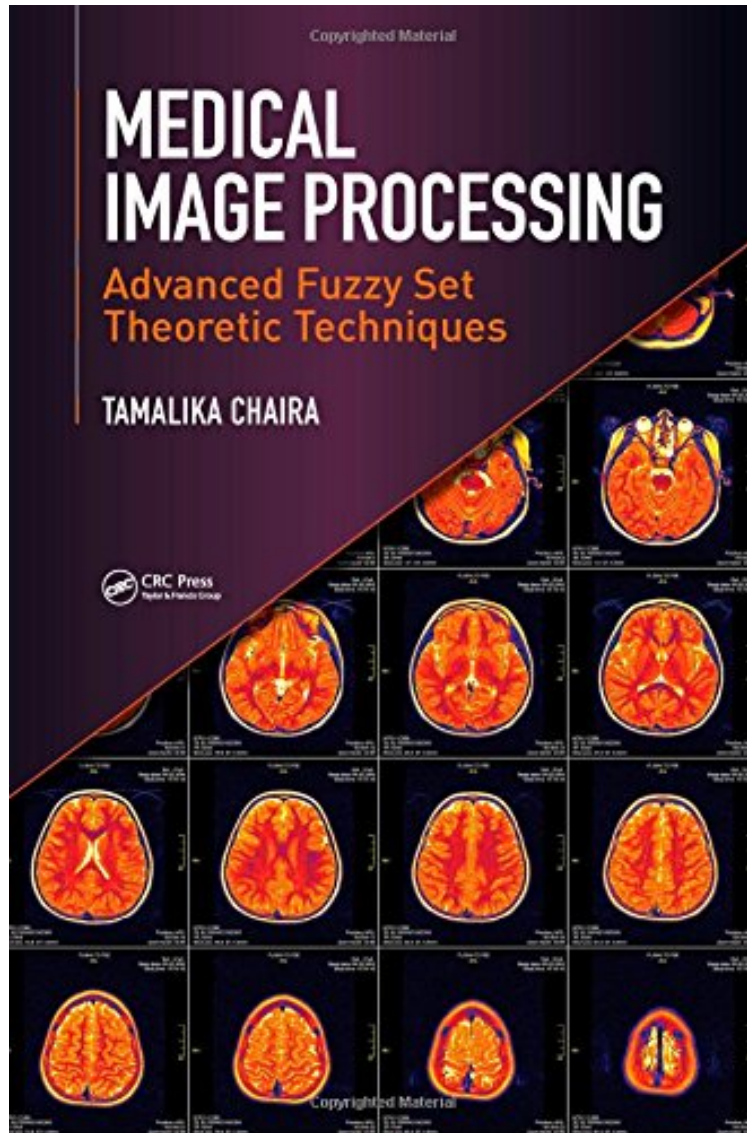


Medical Image Processing: Advanced Fuzzy Set Theoretic Techniques

Tamalika Chaira

audiobook / *ebooks / Download PDF / ePub / DOC



#5893870 in Books 2015-01-28Original language:EnglishPDF # 1 9.20 x .70 x 6.20l, .0 #File Name: 1498700454236 pages | File size: 59.Mb

Tamalika Chaira : Medical Image Processing: Advanced Fuzzy Set Theoretic Techniques before purchasing it in order to gage whether or not it would be worth my time, and all praised Medical Image Processing: Advanced Fuzzy Set Theoretic Techniques:

Medical image analysis using advanced fuzzy set theoretic techniques is an exciting and dynamic branch of image processing. Since the introduction of fuzzy set theory, there has been an explosion of interest in advanced fuzzy set theories such as intuitionistic fuzzy and Type II fuzzy sets that represent uncertainty in a better way. *Medical Image Processing: Advanced Fuzzy Set Theoretic Techniques* deals with the application of intuitionistic fuzzy and Type II fuzzy set theories for medical image analysis. Designed for graduate and doctorate students, this higher-level text: Provides a brief introduction to advanced fuzzy set theory, fuzzy/intuitionistic fuzzy aggregation operators, and distance/similarity measures Covers medical image enhancement using advanced fuzzy sets, including MATLAB-based examples to increase contrast of the images Describes intuitionistic fuzzy and Type II fuzzy thresholding techniques that separate different regions/leukocyte types/abnormal lesions Demonstrates the clustering of unwanted lesions/regions even in the presence of noise by applying intuitionistic fuzzy clustering Highlights the edges of poorly illuminated images and uses intuitionistic fuzzy edge detection to find the edges of different regions Defines fuzzy mathematical morphology and explores its application using the Lukasiewicz operator, t-norms, and t-conorms *Medical Image Processing: Advanced Fuzzy Set Theoretic Techniques* is useful not only for students, but also for teachers, engineers, scientists, and those interested in the field of medical image analysis. A basic knowledge of fuzzy set is required, along with a solid understanding of mathematics and image processing.

"The book treats the most commonly used fuzzy methods in medical image analysis. It does focus on widely used approaches and refrains from methods, which are still under investigations. This increases its value for practitioners, senior students and young researchers. Clearly, the book has been written by a dedicated professional (I do not know the author and have never met her). It should be on the desk of everybody who works on medical image analysis and researching the potentials of fuzzy systems." Hamid R. Tizhoosh, Affiliation: University of Waterloo, Canada "This book focuses on the application of clustering algorithms based on intuitionistic fuzzy set model [s] and their application in segmenting and analyzing medical images. I would like to keep a copy of the book on my shelf. Dr. B. K. Tripathy, VIT University, India "Among the characteristics that make the book *Medical Image Processing: Advanced Fuzzy Set Theoretic Techniques* a valuable addition to the library of both the medical image processing student and the experienced practitioner, is the detailed and self-contained nature of the subjects treated in each one of the chapters of the book. Moreover, the examples that accompany the theoretical notions of the book, as well as the MATLAB code supporting the applications of fuzzy sets in the area of medical image processing, are of paramount importance for both the novice and the experienced reader. Ioannis K. Vlachos, School of Electrical and Computer Engineering National Technical University of Athens About the Author Tamalika Chandra is a research scientist in the Department of Biotechnology, Government of India, and the Indian Institute of Technology Delhi, New Delhi. Previously, she was a research associate at the National Research Council (CNR), Pisa, Italy. She holds a bachelors degree from Bihar Institute of Technology, Sindri, Jharkhand, India; a masters degree from Bengal Engineering and Science University, Shibpur, Howrah, India; and a Ph.D from the Indian Institute of Technology, Kharagpur, West Bengal. She is an author of the book *Fuzzy Image Processing and Applications with MATLAB*, as well as numerous papers. She also received the prestigious National Award (Innovative Young Biotechnologist Award, 2010) from the Government of India.