

# Fractal Analysis Of Breast Masses In Mammograms - , Rangaraj M. Rangayyan

[DOWNLOAD HERE](#)

Fractal analysis is useful in digital image processing for the characterization of shape roughness and gray-scale texture or complexity. Breast masses present shape and gray-scale characteristics in mammograms that vary between benign masses and malignant tumors. This book demonstrates the use of fractal analysis to classify breast masses as benign masses or malignant tumors based on the irregularity exhibited in their contours and the gray-scale variability exhibited in their mammographic images. A few different approaches are described to estimate the fractal dimension (FD) of the contour of a mass, including the ruler method, box-counting method, and the power spectral analysis (PSA) method. Procedures are also described for the estimation of the FD of the gray-scale image of a mass using the blanket method and the PSA method. To facilitate comparative analysis of FD as a feature for pattern classification of breast masses, several other shape features and texture measures are described in the book. The shape features described include compactness, spiculation index, fractional concavity, and Fourier factor. The texture measures described are statistical measures derived from the gray-level cooccurrence matrix of the given image. Texture measures reveal properties about the spatial distribution of the gray levels in the given image; therefore, the performance of texture measures may be dependent on the resolution of the image. For this reason, an analysis of the effect of spatial resolution or pixel size on texture measures in the classification of breast masses is presented in the book. The results demonstrated in the book indicate that fractal analysis is more suitable for characterization of the shape than the gray-level variations of breast masses, with area under the receiver operating characteristics of up to 0.93 with a dataset of 111 mammographic images of masses. The methods and results presented in the book are useful for computer-aided diagnosis of breast cancer. Table of Contents: Computer-Aided Diagnosis of Breast Cancer / Detection and Analysis of new Breast Masses / Datasets of Images of Breast Masses / Methods for Fractal Analysis / Pattern Classification / Results of Classification of Breast Masses / Concluding Remarks

Author: Cabral, Thanh M. Author: Rangayyan, Rangaraj M. Publisher: Morgan & Claypool Publishers Illustration: N Language: ENG Title: Fractal Analysis of Breast Masses in

[DOWNLOAD HERE](#)

**Similar manuals:**

[Tomatoe With Many Syringes Shots Genetic Engineering Gene Technology Genetically Modified Changend Manipulated Food](#)

[An Old Roof With Modern Technology On It](#)

[An Old House With Modern Technology On Its Roof](#)

[Biomedical Research Park, Parc De Recerca Biomdica De Barcelona, PRBB, Port Olimpic, Barcelona, Catalonia, Spain, Europe](#)

[Royalty Free Stock Photos TECHNOLOGY TV Stereo Radio Laptop](#)

[Capsicum Filled With Strawberry, Symbolic Image For Genetic Engineering](#)

[Orange Filled With A Kiwi, Symbolic Image For Genetic Engineering](#)

[Orange Filled With A Kiwi, Symbolic Image For Genetic Engineering](#)

[Orange Filled With A Kiwi, Symbolic Image For Genetic Engineering](#)

[Engineering Mathematics - John Bird](#)

[BTEC First Engineering - Mike Tooley](#)

[Basic Engineering Mathematics - , John Bird](#)

[Higher Engineering Mathematics - John Bird](#)

[Film Technology In Post Production - Dominic Case](#)

[Audio Post Production For Television And Film: An Introduction To Technology And Techniques - , Tim Amyes](#)

[Music Technology Workbook: Key Concepts And Practical Projects - , Steven Gurevitz](#)

[Basic TV Technology: Digital And Analog - Robert L Hartwig](#)

[Newnes Engineering Science Pocket Book - John Bird](#)

[Mechanical Engineering Principles - , Carl T. F. T. F. Ross](#)

[Mechanical Engineering: Level 2 NVQ - , Penny Powdrill](#)

[Engineering Fundamentals - Roger Timings](#)

[Mechanical Engineering - Alan Darbyshire](#)

[Electrical Circuit Theory And Technology - John Bird](#)

[Light And Heavy Vehicle Technology - M J Nunney](#)

[Engineering Science - W. Bolton](#)

[Higher Engineering Mathematics - , John Bird](#)

[Nano Robots And Bacteria, Concept Nanotechnology In Medicine, 3D Illustration](#)

[The Freelancer's Guide To Corporate Event Design: From Technology Fundamentals To Scenic And Environmental Design - Troy Halsey](#)

[BTEC First Engineering - Mike Tooley](#)

[Engineering Mathematics Pocket Book - John Bird](#)

[Electrical Circuit Theory And Technology - John Bird](#)

[Power Over Peoples: Technology, Environments, And Western Imperialism, 1400 To The Present - Daniel R. R. Headrick](#)

[Project Management For Healthcare Information Technology - , David Masuda](#)

[Work-Integrated Learning In Engineering, Built Environment And Technology: Diversity Of Practice In Practice](#)

[Technology And Young Children: Bridging The Communication-Generation Gap](#)

[Handbook Of Research On Computational Science And Engineering: Theory And Practice \(2 Vol\)](#)

[Advanced Vehicle Technology](#)

[Handbook Of Nanostructured Materials And Nanotechnology, Five-Volume Set](#)

[Darwin's Devices: What Evolving Robots Can Teach Us About The History Of Life And The Future Of Technology - John Long](#)

[Semantic Technologies For Business And Information Systems Engineering: Concepts And Applications](#)

[Information Technology In Water And Wastewater Utilities, WEF MOP 33 - Water Environment Federation](#)

[Sound Technology And The American Cinema: Perception, Representation, Modernity - James Lastra](#)

[Geometric And Engineering Drawing 3E - K. Morling](#)

[HP CM8060/8050 Color MFP & Edgeline Technology Service Manual](#)

[Technology In Postwar America: A History - Carroll Pursell](#)

[Engineering Mathematics - John Bird](#)

[Advanced Motorsport Engineering - Andrew Livesey](#)

[Museum Informatics: People, Information, And Technology In Museums - , Katherine Burton Jones](#)

[Crafting Your Research Future: A Guide To Successful Master's And PhD Degrees In Science & Engineering - , Qiang Yang](#)

[PLR Technology Articles Pack 1](#)