JOIN OUR MAILING LIST
NEWS & EVENTS
CATALOG & TITLE LISTS
LOG IN

Publishing quality books in STEM and other fields

Home | About Us | Conference Schedule | AAP Research Notes | Ordering Info | Publish With Us | Contact Us

Exclusive co-publishing with
CRC Press
Taylor & Francis Group
STM MEMBER 2023

- Agriculture & Allied Sciences
- Allied Health
- Alternative & Complementary Medicine
- Animal Studies & Veterinary Sciences
- Anthropology
- Archaeology
- Bioinformatics
- Biology
- Biomedical Engineering/Nanotechnology
- Biotechnology
- Business Management
- Chemical Engineering
- Chemistry
- Chemoinformatics
- Computer Science & Information Management
- COVID and Pandemic Issues
- Economics & Finance
- Education
- Electronics and Communications Technology
- Energy Science
- Engineering
- Environmental Health
- Environmental Science/Climate Change & Mitigation
- Fisheries Science & Marine Biology
- Food Chemistry & Science
- Hospitality & Tourism
- Law
- Library & Information Science
- Materials Science
- Mathematics
- Mechanical Engineering
- Media & Communications
- Medicine & Health Sciences
- Nanomedicine
- Nanotechnology
- Nutrition, Dietetics & Health

Biomedical Engineering/Nanotechnology

Applied Intelligence for Medical Image Analysis

Editors: Aarti, PhD
Raju Pal, PhD
Mukesh Saraswat
Himanshu Mittal, PhD

Ordering Info/Buy Book

Cover Image Coming Soon

In Production
Pub Date: Forthcoming October 2023
Hardback Price: $170 US
Hard ISBN: 9781774914762
Pages: Est. 250pp w/index
Binding Type: Hardback / eBook
Notes: 18 color, 62 b/w illustrations

Over the last decades, there has been a revolution in the analysis of medical images with the new technological advancements. Innovative intelligent technologies have been developed to analyze and interpret medical images automatically for diseases diagnosis and disease assessment and for combatting new diseases.

This new volume explores the latest cutting-edge research in medical image analysis. The advanced intelligent technologies discussed include machine learning, ensemble methods in machine learning, deep learning methods and firebase technology, infrared thermography, deep convolution neural networks, and more. Some of the specific uses of these technologies include for brain tumor MRIs, for breast cancer screening, for polycystic ovary syndrome classification, for detecting and monitoring Alzheimer's disease, for monitoring of newborns, for retinal disease diagnosis, for Covid-19 detection, and more.

Key features

- Covers the application of deep learning techniques for the medical image problems
- Considers the development of future machine learning techniques and further applications of existing techniques
- Presents literature reviews on deep learning methods for medical image analysis
- Discusses the applications of applied intelligence for the diagnosis of medical images, image genomics, and brain connectomics
- Relays the latest technologies and algorithms related to the state-of-the-art medical image analysis in assessing and diagnosing diseases

Applied Intelligence for Medical Image Analysis will be of interest to academics and researchers in the area of deep learning and medical imaging.

CONTENTS:
Preface

Introduction

1. A Comparative Study of Anisotropic Diffusion Filters for Medical Image Denoising
Amira Hadj Fredj, Jihene Malek, and Souhir Mabrouk

2. Salt and Pepper Noise Removal Techniques for Medical Image Reconstruction
Vatsal Nanda, Prateek Jeet Singh Sohi, Bharat Garg, and Prashant Singh Rana

3. Comparative Analysis of PSP- and WOA-Based Segmentation of Brain Tumor MRIs
Reena Tripathi and Bindu Verma

4. Breast Cancer Screening Using Fractal Dimension of Chromatin in Interphase Nuclei of Buccal Epithelium
Dmitriy Klyushin, Kateryna Golubeva, Natalia Boroday, and Chan Kha Vu

5. Polycystic Ovary Syndrome Classification Based on Machine Learning
Nancy Girdhar, Priya Singh, and Tisha Singhal

6. A Comprehensive Review on Diagnosis of Alzheimer's Disease Using Ensemble Methods and Machine Learning
Prachi Patil and Sujata Kadu

Free standard shipping worldwide

Sign Up for email alerts

Follow us for the latest from Apple Academic Press:

@ f t in ✈ g+

Announcing a new AAP book series: **Perspectives and Anthropology in Tourism and Hospitality (PATH)**
For more information, visit: **Click here**

The new AAP book series **Innovations in Microbiology** welcomes book proposals. For more information, see: **Click here**

AAP Seeks Book Proposals in the Humanities and Social Sciences
AAP is looking to expand our line of publications in the humanities and social sciences. If you or your colleague are interested in proposing a new book to us, please contact sandy@appleacademicpress.com for details. We are particularly interested in books on topics in these areas: criminal justice studies, current issues, gender and women's studies, international relations, multicultural and regional studies, politics and government, and social science, to name a few. Please feel free to share this with your colleagues. AAP titles are co-published with CRC Press/Taylor & Francis.

COMMENTS FROM AAP EDITORS AND AUTHORS
AAP book title: *Advances in Audiology and Hearing Science* (2-volume set)
"I have collaborated with AAP during the process of bringing my two-volume editing work " Advances in Audiology and Hearing Science" to a final publishing phase. Despite the fact that the book brought together 41 different authors (with very different writing styles), AAP support has been truly important throughout the initial and final stages of the book. While the majority of the publishing work is done at the early stages, the final touches that include the last-minute corrections of the authors are extremely crucial to the quality the book tries to convey. The assistance of AAP during the last stages of corrections and communication with the authors was a very positive contributor to my state of mind during those stressful moments. I recommend the publishing experience with AAP to other editors of scientific material." —Stavros Hatzopoulos, PhD, Hearing Science Laboratory, University Hospital of Ferrara, Ferrara, Italy

AAP book title: *Nanotechnologies: The Physics of Nanomaterials* (2-volume set)
"As the author of a two-volume book on nanotechnologies, I was very pleased with the interaction and support of the team at Apple Academic Press. They provided me with regular and useful information and updates throughout the publishing procedure. I am also very happy with the final product, which is of good quality. The books are now available and are professionally distributed through the various channels. I would like again to thank the team at AAP for all their hard work and support." —David Schmool, PhD, Director, Groupe d'Etude de la Matière

7. A New Strategy for Prediction of Diabetic Retinopathy Using Deep Learning Methods and Firebase Technology
Abdelwaheb Jebnouni, Amira Hadj Fredj, and Jihene Malek

8. Contactless Monitoring in Newborns Using Infrared Thermography: A Review
Lalit Maurya, Roop Singh, Deepak Chawla, and Prasant Mahapatra

9. Retinal Disease Diagnosis Using Machine Learning Techniques
G. Kalaiarasi, B. Saritha, S. K. Kabilesh, and D. Mohanapriya

10. Automated Segregation of Lymphoid and Myeloid Blasts in Acute Leukemia Cases Using a Deep Convolutional Neural Network
Anilkumar K. K., Manoj V. J, and Sagi T. M

11. Evaluation of Deep Learning Network Architectures for Medicine Expenditure Prediction in the Healthcare Domain
Ulises Manuel Ramirez-Alcocer, Jaciel David Hernandez-Resendiz, and Edgar Tello Leal

12. Covid-19 Detection from Chest X-Ray Using a Customized Artificial Neural Network
Vinayak Tiwari, Amit Singhal, and Nischay Dhankhar

13. An Automated Deep Learning Approach to Classify ECG signals using AlexNet
Neelofer Shaheen, Mudassir Hasan Khan and Mohammad Sarfraz

14. MLO and CC View of Feature Fusion and Mammogram Classification Using a Deep Convolution Neural Network
V. Sridevi and J. Abdul Samath

Index

ABOUT THE AUTHORS / EDITORS:

Editors: Aarti, PhD
Associate Professor, Department of Computer Science and Engineering, Lovely Professional University, Phagwara, Punjab, India

Dr. Aarti is working as an Associate Professor in the Computer Science and Engineering Department at Lovely Professional University, Phagwara, India. She has more than seven years of experience in teaching. She is currently working on optimization of nature-inspired algorithms for the medical field. She is passionate in her work in data mining, machine learning, and optimization of learning techniques medical images and fault-tolerance. She has published more than 20 papers in the field of mining, security, and medical image analysis. She is reviewer of many journals. She earned her PhD and MTech from Dr. B. R. Ambedkar National Institute of Technology Jalandhar, India.

Raju Pal, PhD
Assistant Professor, Department of Computer Science and Engineering, Jaypee Institute of Information Technology, Noida, India

Dr. Raju Pal has more than seven years of teaching and research experience. He is a faculty member in the Department of Computer Science and Engineering at Jaypee Institute of Information Technology, Noida, India, where he earned his doctorate degree in Histopathological Images Analysis. He is passionate in his work in the area of machine learning, medical image analysis, and wireless sensor networks. He has made substantial contributions to the field of image processing and machine learning with over 20 published research articles. He was the part of successfully completed SERB-DST (New Delhi) funded project on Histopathological Image Analysis. He is the reviewer of many international journals, including the *Journal of Communications and Networks, Future Generation Computer Systems, Neural Computing and Applications,* etc.

Mukesh Saraswat
Associate Professor, Department of Computer Science and Engineering, Jaypee Institute of Information Technology, Noida, India

Dr. Mukesh Saraswat has more than 18 years of teaching and research experience. He has guided PhD students and over 50 MTech and BTech in their dissertations. He has published more than 40 journal and conference papers in image processing, pattern recognition, data mining, and soft computing. He is the part of successfully completed DRDE-funded project on image analysis and is currently running two projects funded by SERB-DST (New Delhi) on Histopathological Image Analysis and Collaborative Research Scheme (CRS), under TEQIP III (RTU-ATU) on Smile. He has been an active member of many organizing committees of various conferences and workshops. He was also a guest editor of the *International Journal of Swarm Intelligence.* He is an active member of IEEE, ACM, and CSI professional bodies. His research areas include image processing, pattern recognition, data mining, and soft computing.

Himanshu Mittal, PhD
Assistant Professor, Department of Artificial Intelligence and Data Science University, Indira Gandhi Delhi Technical University for Women, Delhi, India

Dr. Himanshu Mittal has more than seven years of teaching and research experience. He is currently Assistant Professor in the Department of Artificial Intelligence and Data Science University: Indira Gandhi Delhi Technical University for Women, Delhi, India. He was formerly a faculty member in the Department of Computer Science and Engineering at Jaypee Institute of Information Technology, Noida, India, where he earned his doctorate degree. His interest areas include deep learning, machine learning, medical image analysis, and soft computing. He has published over research publications in the field of image analysis. He is one of members of the successfully completed

SERB-DST funded project on Histopathological Image Analysis. He is the reviewer of many international journals, including *Future Generation Computer Systems, International Journal of Machine Learning and Cybernetics,* etc.

Phosphorus: An Interdisciplinary Approach to Astrobiology
"I'm very pleased with the books you have edited. It shows a very good and careful work by everyone involved along the whole production process, and so the final result is a beautiful piece: it has come out as a very nice and appealing book, easy to handle and read, …. and hopefully of interest for people from diverse related fields!" —Enrique Macia-Barber, PhD, Professor of Condensed Matter Physics, Universidad Complutense de Madrid, Spain

AAP book title: *Phytochemistry, 3-Volume Set*
"As the Principal Editor for the trending 3-volume set book of Phytochemistry, I wish to express my sincere gratitude to the management of AAP for their excellent publishing services. Our publishing experience is positive, and the outcome of the book is one that is attracting lots of interests and recommendations from eminent scientists and research scholars worldwide. Our students, who are privileged to be the first users of the book, are very happy with the simplicity of the chapters. I also wish to express my happiness about the robust distribution channel of APP and, more especially, the print quality of our book. I look forward to working with AAP again." —Chukwuebuka Egbuna (MNSBMB, MICCON, AMRSC), Department of Biochemistry, Chukwuemeka Odumegwu Ojukwu University, Uli-Campus, Anambra State, Nigeria

AAP book title: *Sustainable Viticulture: The Vines and Wines of Burgundy*
"I would like to thank Dr. Mahmood Khan and AAP warmly for offering me the opportunity to publish my book Sustainable Viticulture: The Vines and Wines of Burgundy. I found a lot of pleasure in reflecting on my experience and observations as a viticulturist in Burgundy and other regions of the world. I enjoyed putting in writing thoughts, memories, and ideas I've had for years. I also found pleasure in synthesizing discussions I've had with wine professionals and wine buffs as well as reading notes I regularly jotted down. I can also add that I very much appreciated the friendly and firm support and guidance of the staff of Apple Academic Press." —Claude Chapuis, Associate Professor, School of Wine & Spirits Business, Dijon, France

AAP book title: *Polymeric Thermosetting Compounds: Innovative Aspects of Their Formulation Technology*
"I was recently thrilled to flip the pages of my new book, Polymeric Thermosetting Polymers. This book shares a lifetime of lessons from my pioneering efforts in compound custom formulating. That is why I am so very grateful to AAP for making it possible to get this unique book into worldwide circulation. The expert team at AAP made the experience of writing, organizing, and polishing the book quite enjoyable." —Ralph D. Hermansen, Formerly Senior Scientist, Hughes Aircraft Company, El Segundo, California

AAP book title: *Organizational Behavior and Virtual Work: Concepts and Analytical Approaches*
"Glad to see the final outcome of the book. It was truly wonderful & smooth experience to work with AAP. Definitely, looking forward to more exciting and fruitful association in future." —Arvind K. Birdie, PhD, Associate Professor and Acting Principal, IIMT School of Management (Oxford Brooks University), Gurgaon, India

AAP book title: *Research for the Radiation Therapist: From Question to Culture*
"Working with Apple Academic Press was a rewarding and collaborative experience. Effort was made to truly understand what we hoped to accomplish in publishing our work, and the team was responsive and receptive to our queries, feedback, and revisions. The high quality of the final product and its success is a reflection on the quality of the partnership we experienced with AAP in realizing this project." —Caitlin Gillan, Asst Professor, University of Toronto, Canada

AAP book title: *Industrial Catalysis and Separations: Innovations for Process Intensification*
"I have published more than two hundred and thirty articles and thirteen book chapters and monographs in my life. Publishing with Apple Academic Press has been by far my very best experience. AAP is extremely cordial at every state of book processing, highly professional in maintaining the quality and meeting the deadlines. I wholeheartedly recommend anyone to consider publishing with AAP." —Benjaram M. Reddy, Chief Scientist & Head, CSIR – Indian Institute of Chemical Technology, Hyderabad, India

AAP book titles: *Facilitating Deep Learning: Pathways to Success for University and College Teachers* and *Teaching Law and Criminal Justice Through Popular Culture: A Deep Learning Approach in the Streaming Era*
"Working with Apple Academic Press is a great experience, as I felt supported from the conception of the book to its completion. My latest book originated from an email that I received from Ashish Kumar who suggested that I write a new

book on teaching and learning after AAP had published my previous book. From that day onwards, it has been a real pleasure to go through each stage of the publishing process with AAP. Everyone works hard, very professionally, and, above all, very enthusiastically. The editors pay attention to details that no one else can detect. And they suggest alternatives in a very proactive way. Sandy Sickels is incredibly helpful and supportive. I am very grateful to everyone at AAP and am looking forward to publishing another book with them." — Julian Hermida, PhD, Associate Professor, Department of Law and Politics, Teaching and Learning Committee, Algoma University, Sault Ste. Marie, Ontario, Canada