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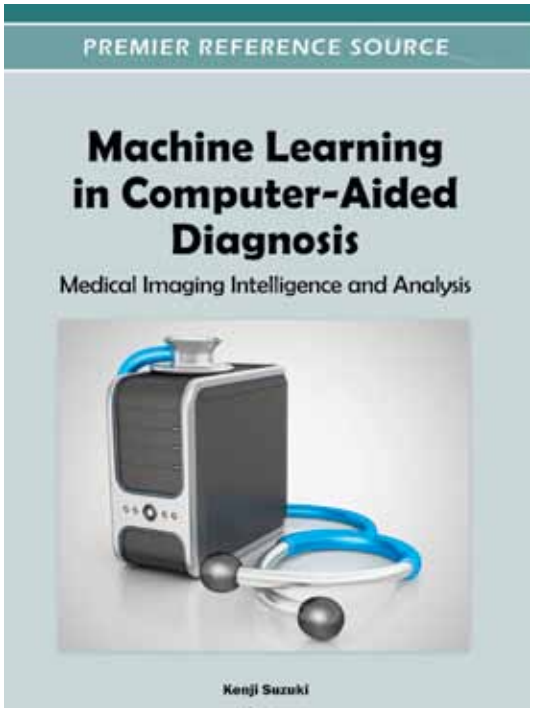
Machine Learning in Computer-Aided Diagnosis: Medical Imaging Intelligence and Analysis



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Kenji Suzuki
(University of Chicago, USA)

Medical imaging is an indispensable tool for modern healthcare. Machine leaning plays an essential role in the medical imaging field, with applications including medical image analysis, computer-aided diagnosis, organ/lesion segmentation, image fusion, image-guided therapy, and image annotation and image retrieval.

Machine Learning in Computer-Aided Diagnosis: Medical Imaging Intelligence and Analysis provides a comprehensive overview of machine learning research and technology in medical decision-making based on medical images. This book covers major technical advancements and research findings in the field of Computer-Aided Diagnosis (CAD). As it demonstrates the practical applications of CAD, this book is a useful reference for professors in engineering and medical schools, students in engineering and applied-science, medical students, medical engineers, researchers in industry, academia, and health science, radiologists, cardiologists, surgeons, and healthcare professionals.

Topics Covered:

- Automated Segmentation Computed Tomography Scans
- Clinical Machine Learning
- Computer-Aided Detection and Diagnosis
- Content-Based Image Retrieval
- Ensemble Learning
- Fuzzy Methods for Image Analysis
- Machine Learning Techniques
- Magnetic Resonance Imaging
- Medical Image Registration, Segmentation and Classification
- Relevance Feedback

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Kenji Suzuki received his B.S. and M.S. degrees in engineering from Meijo University, Japan, in 1991 and 1993 respectively. In 2001, he earned a Ph.D. degree (by Published Work) in engineering from Nagoya University, Japan. From 1993 to 2001, he worked at Hitachi Medical Corporation and then Aichi Prefectural University as faculty. In 2001, he joined Department of Radiology at The University of Chicago, as a Research Associate. Since 2006, he has been an Assistant Professor of Radiology, Medical Physics, and Cancer Research Center. Dr. Suzuki' research interests include computer-aided diagnosis and machine learning. He has published more than 190 papers (including 70 peer-reviewed journal papers), 4 books, and 13 book chapters, and has edited 4 journal special issues. He has an h-index of 22 as of 2011. He was awarded more than 25 grants including NIH R01 grants. He has been serving as the Editor-in-Chief and an Associate Editor of 13 leading international journals, including Medical Physics, Academic Radiology, and Algorithms. He has been serving as a referee for more than 45 international journals, an organizer of 5 international conferences, and a program committee member of 50 international conferences. He had supervised/co-supervised more than 60 graduate/undergraduate students, postdocs/computer scientists, and visiting professors. He has received numerous awards, including a University of Chicago Paul C. Hodges Award, three Certificate of Merit Awards and Research Trainee Prize from RSNA, Young Investigator Award from Cancer Research Foundation, an IEEE Outstanding Member Award, and Honorable Mention Poster Award at SPIE International Symposium on Medical Imaging. He has been a Senior Member of IEEE since 2004.

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