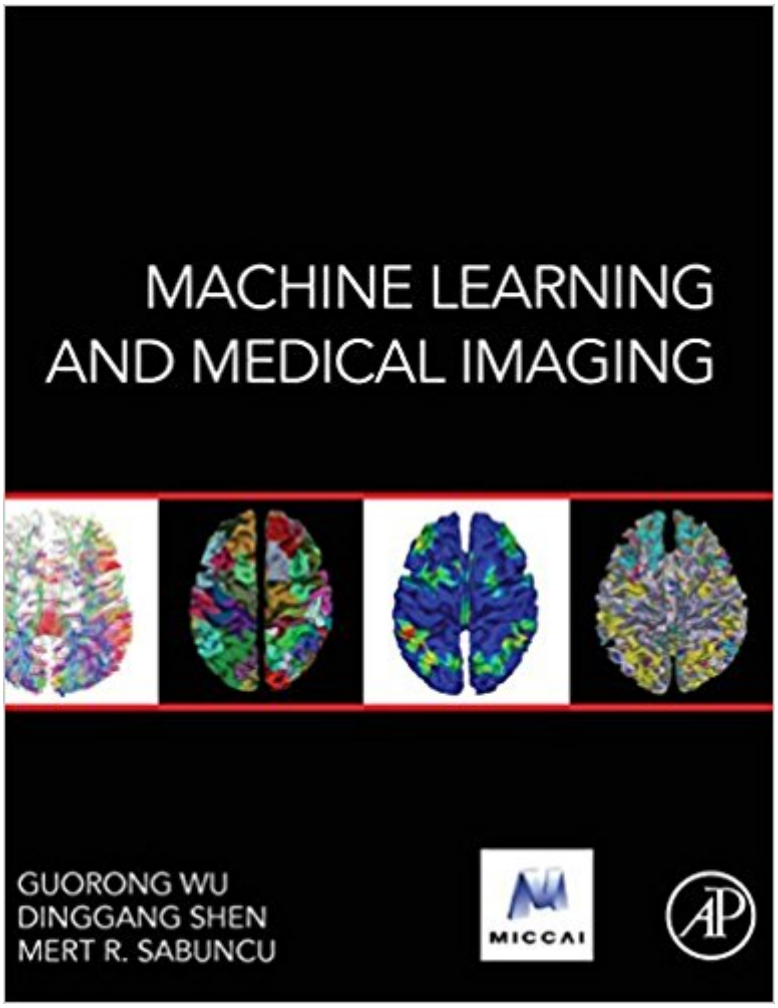
Machine Learning And Medical Imaging (Elsevier And Micca Society)



Synopsis

Machine Learning and Medical Imaging presents state-of- the-art machine learning methods in medical image analysis. It first summarizes cutting-edge machine learning algorithms in medical imaging, including not only classical probabilistic modeling and learning methods, but also recent breakthroughs in deep learning, sparse representation/coding, and big data hashing. In the second part leading research groups around the world present a wide spectrum of machine learning methods with application to different medical imaging modalities, clinical domains, and organs. The biomedical imaging modalities include ultrasound, magnetic resonance imaging (MRI), computed tomography (CT), histology, and microscopy images. The targeted organs span the lung, liver, brain, and prostate, while there is also a treatment of examining genetic associations. Machine Learning and Medical Imaging is an ideal reference for medical imaging researchers, industry scientists and engineers, advanced undergraduate and graduate students, and clinicians.Demonstrates the application of cutting-edge machine learning techniques to medical imaging problemsCovers an array of medical imaging applications including computer assisted diagnosis, image guided radiation therapy, landmark detection, imaging genomics, and brain connectomicsFeatures self-contained chapters with a thorough literature reviewAssesses the development of future machine learning techniques and the further application of existing techniques

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Customer Reviews

This book presents state-of- the-art of machine learning methods in medical image analysis. It first summarizes cutting-edge machine learning algorithms in medical imaging, including not only classical probabilistic modeling and learning methods, but also recent breakthroughs in deep learning, sparse representation/coding, and big data hashing. In the second part leading research groups around the world present a wide spectrum of machine learning methods with their application to different medical imaging modalities, clinical domains and organs. The biomedical imaging modalities include ultrasound, magnetic resonance imaging (MRI), computed tomography (CT), histology, and microscopy images. The targeted organs span the lung, liver, brain, and prostate, while there is also a treatment of examining genetic associations. Machine Learning and Medical Imaging is an ideal reference for medical imaging researchers, industry scientists and engineers, advanced undergraduate and graduate students, and clinicians. Key Features: Demonstrates the application of cutting-edge machine learning techniques to medical imaging problems Covers an array of medical imaging applications from computer assisted diagnosis, image guided radiation therapy, landmark detection, imaging genomics, and brain connectomics Self-contained chapters with a thorough literature review Assesses the development of future machine learning techniques and the further application of existing techniques

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