

Contents

1	Introduction to Machine Learning in Healthcare Informatics. . . .	1
	Pradeep Chowriappa, Sumeet Dua and Yavor Todorov	
2	Wavelet-based Machine Learning Techniques for ECG Signal Analysis.	25
	Roshan Joy Martis, Chandan Chakraborty and Ajoy Kumar Ray	
3	Application of Fuzzy Logic Control for Regulation of Glucose Level of Diabetic Patient	47
	K. Y. Zhu, W. D. Liu and Y. Xiao	
4	The Application of Genetic Algorithm for Unsupervised Classification of ECG	65
	Roshan Joy Martis, Hari Prasad, Chandan Chakraborty and Ajoy Kumar Ray	
5	Pixel-based Machine Learning in Computer-Aided Diagnosis of Lung and Colon Cancer	81
	Kenji Suzuki	
6	Understanding Foot Function During Stance Phase by Bayesian Network Based Causal Inference.	113
	Myagmarbayar Nergui, Jun Inoue, Murai Chieko, Wenwei Yu and U. Rajendra Acharya	
7	Rule Learning in Healthcare and Health Services Research.	131
	Janusz Wojtusiak	
8	Machine Learning Techniques for AD/MCI Diagnosis and Prognosis	147
	Dinggang Shen, Chong-Yaw Wee, Daoqiang Zhang, Luping Zhou and Pew-Thian Yap	

9	Using Machine Learning to Plan Rehabilitation for Home Care Clients: Beyond “Black-Box” Predictions	181
	Mu Zhu, Lu Cheng, Joshua J. Armstrong, Jeff W. Poss, John P. Hirdes and Paul Stolee	
10	Clinical Utility of Machine Learning and Longitudinal EHR Data	209
	Walter F. Stewart, Jason Roy, Jimeng Sun and Shahram Ebadollahi	
11	Rule-based Computer Aided Decision Making for Traumatic Brain Injuries	229
	Ashwin Belle, Soo-Yeon Ji, Wenan Chen, Toan Huynh and Kayvan Najarian	
12	Supervised Learning Methods for Fraud Detection in Healthcare Insurance	261
	Prerna Dua and Sonali Bais	
13	Feature Extraction by Quick Reduction Algorithm: Assessing the Neurovascular Pattern of Migraine Sufferers from NIRS Signals	287
	Samanta Rosati, Gabriella Balestra and Filippo Molinari	
14	A Selection and Reduction Approach for the Optimization of Ultrasound Carotid Artery Images Segmentation.	309
	Samanta Rosati, Gabriella Balestra, Filippo Molinari, U. Rajendra Acharya and Jasjit S. Suri	