Wireless Computing in Medicine: From Nano to Cloud with Ethical and Legal Implications
Mary Mehrnoosh Eshaghian-Wilner (Editor)

E-Book 978-1-118-99361-3 June 2016 $124.99
Hardcover 978-1-118-99359-0 July 2016 $156.00
O-Book 978-1-118-99362-0 July 2016 Available on Wiley Online Library

DESCRIPTION

Provides a comprehensive overview of wireless computing in medicine, with technological, medical, and legal advances

This book brings together the latest work of leading scientists in the disciplines of Computing, Medicine, and Law, in the field of Wireless Health. The book is organized into three main sections. The first section discusses the use of distributed computing in medicine. It concentrates on methods for treating chronic diseases and cognitive disabilities like Alzheimer’s, Autism, etc. It also discusses how to improve portability and accuracy of monitoring instruments and reduce the redundancy of data. It emphasizes the privacy and security of using such devices. The role of mobile sensing, wireless power and Markov decision process in distributed computing is also examined. The second section covers nanomedicine and discusses how the drug delivery strategies for chronic diseases can be efficiently improved by Nanotechnology enabled materials and devices such as MENs and Nanorobots. The authors will also explain how to use DNA computation in medicine, model brain disorders and detect bio-markers using nanotechnology. The third section will focus on the legal and privacy issues, and how to implement these technologies in a way that is a safe and ethical.

- Defines the technologies of distributed wireless health, from software that runs cloud computing data centers, to the technologies that allow new sensors to work
- Explains the applications of nanotechnologies to prevent, diagnose and cure disease
- Includes case studies on how the technologies covered in the book are being implemented in the medical field, through both the creation of new medical applications and their integration into current systems
• Discusses pervasive computing’s organizational benefits to hospitals and health care organizations, and their ethical and legal challenges

Wireless Computing in Medicine: From Nano to Cloud with Its Ethical and Legal Implications is written as a reference for computer engineers working in wireless computing, as well as medical and legal professionals. The book will also serve students in the fields of advanced computing, nanomedicine, health informatics, and technology law.

➢ ABOUT THE AUTHOR

Dr. Mary Mehrnoosh Eshaghian-Wilner, Esq. is an interdisciplinary scientist and patent attorney. She received a B.S. degree in Biomedical and Electrical Engineering (1985), M.S. degree in Computer Engineering (1985), Engineers degree in Electrical Engineering (1988), and Ph.D. in Computer Engineering (1988), all from the University of Southern California (USC). She holds a J.D. degree from the Northwestern California School of Law, and has graduated Cum Laude with an LL.M. degree from the Thomas Jefferson School of Law. Professor Eshaghian-Wilner is currently a Professor of Engineering Practice at the Electrical Engineering Department of USC. She is best known for her work in the areas of Optical Computing, Heterogeneous Computing, and Nanocomputing. Her current research involves the applications and implications of these and other emerging technologies in medicine and law. Professor Eshaghian-Wilner has founded and/or chaired numerous IEEE conferences and organizations, and serves on the editorial board of several journals. She is the recipient of several prestigious awards, and has authored and/or edited hundreds of publications, including three books.

➢ SERIES

Nature-Inspired Computing Series

To purchase this product, please visit https://www.wiley.com/en-us/9781118993590