

Preface

The demand for deployment of large-scale distributed computing technologies in healthcare domain has increased due to the enormous growth in healthcare data. Millions of devices are unceasingly generating healthcare data every day, which depicts the evolving nature of smart healthcare services. Moreover, numerous research works emphasizing on patient monitoring, fall detection, activity recognition, and Body Area Networks (BAN) have been carried out in the recent past. However, it has become evident that integration of traditional healthcare practices with large-scale distributed computing technologies ensures the efficient provision of smart health services and is also instrumental to their widespread acceptance.

Currently there are several books that cover the topics related to pervasive health care and mobile health. However, to the best of our knowledge there is no specific book that comprehensively reports the efforts made to integrate pervasive healthcare with the large-scale and distributed computing approaches. This book provides advanced perspectives and visions for the cutting-edge research in ubiquitous health care with emphasis on large-scale computing techniques. The topics covered in the book mainly emphasize on large-scale architectures and high-performance solutions for smart healthcare, healthcare monitoring using large-scale computing techniques, Internet-of-Things (IoT) and big data analytics for healthcare, Fog Computing, mobile health, large-scale medical data mining, advanced machine learning methods for mining multidimensional sensor data, smart homes, and resource allocation methods for the BANs.

This book covers the topics ranging from the theory, concept, and systems, to the applications of large-scale healthcare systems for ubiquitous healthcare services. The book contains high quality chapters contributed by internationally renowned researchers working in domains, such as e-Health, pervasive and context-aware

computing, cloud, grid, cluster, and big data computing. We are optimistic that the topics included in this book will provide a multidisciplinary research platform to the researchers, practitioners, and students from biomedical engineering, health informatics, computer science, and computer engineering.

Fargo, USA
Sydney, Australia
Islamabad, Pakistan

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Handbook of Large-Scale Distributed Computing in
Smart Healthcare

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2017, XI, 635 p. 207 illus., Hardcover

ISBN: 978-3-319-58279-5