

Preface

Information (and Communication) Technology (IT), which emerged at the end of nineteenth century as one of the most potent growth areas, is an outcome due to a fundamental change in our society from Industry to Information/Knowledge-based activities. IT has ever-growing impact upon the society and it continues to lead, shape, and support all affairs of the human beings. It is indeed widely recognized that the societal development depends on the successful progress of IT. Although it emerged as a convergence of computer and communication technologies, in broad sense it refers to all aspects of computing as well as the technological needs in academia, business, government, public-service sectors, and other kinds of organizations for automation and administration. It thus encompasses a vast majority of diverse fields in science, technology, management, and many more. The present proceedings, which is edited based on the selected innovative original research articles of the *2nd International Conference on Recent Advances on Information Technology (RAIT-2014)*, organized by the Department of Computer Science and Engineering, Indian School of Mines, Dhanbad, India, not only enhances the IT advancement, but also helps the IT professionals all over the world for their new creativities/research in IT.

We arranged for publishing the conference proceeding by Springer as a book series *Advances in Intelligent Systems and Computing* for maximum possible reachability to the readers worldwide. It has four parts comprising—(1) *Network and Security*: It contains four chapters, two of which deal with designing of routing protocols for mobile ad-hoc and wireless sensor networks, and other two are on network application and security issues; (2) *Image Processing Applications*: This part comprises of four contributory chapters on various applications of image processing namely, granulometric image analysis based on first digital geometric approach for image-based quality monitoring, document image processing for character and hand-written script recognition, and DCT-based image processing for cryptographic application; (3) *Topics in Algorithm Design*: Three innovative chapters mainly designing efficient algorithms on shortest path spanning tree of a given graph, dynamic checkpoint strategy usable in computational grid and computation of DFT in multi mesh network; and (4) *Mathematical Computing*: This part has five chapters that cover the following areas—precise estimation of population mean in nonresponsive condition, modeling of epidemic spread under Allee effect, rainfall prediction based on pattern similarity and K-NN technique,

dimensionality reduction of gene expression for designing rule-based classifier and Eigen value estimation based on Radial Basis Function.

Finally, editors look forward that the edited volume would earn accolade from the researchers working in the related areas.

Recent Advances in Information Technology

RAIT-2014 Proceedings

Biswas, G.P.; Mukhopadhyay, S. (Eds.)

2014, XIX, 147 p. 53 illus., Softcover

ISBN: 978-81-322-1855-5