

Lecture Notes in Networks and Systems

Volume 38

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Advances in Data and Information Sciences

Proceedings of ICDIS-2017, Volume 1

 Springer

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ISSN 2367-3370

ISSN 2367-3389 (electronic)

Lecture Notes in Networks and Systems

ISBN 978-981-10-8359-4

ISBN 978-981-10-8360-0 (eBook)

<https://doi.org/10.1007/978-981-10-8360-0>

Library of Congress Control Number: 2018933483

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Printed on acid-free paper

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd. part of Springer Nature

The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

Preface

ICDIS-2017 is a major multidisciplinary conference organized with the objective of bringing together researchers, developers, and practitioners from academia and industry working in all areas of computer and computational sciences. It is organized specifically to help computer industry to derive the advances in next-generation computer and communication technology. Researchers invited to speak will present the latest developments and technical solutions.

Technological developments all over the world are dependent upon the globalization of various research activities. Exchange of information and innovative ideas is necessary to accelerate the development of technology. Keeping this ideology in preference, the International Conference on Data and Information Sciences (ICDIS-2017) has been organized at Indira Gandhi National Tribal University, Amarkantak, MP, India, during November 14–15, 2017.

The International Conference on Data and Information Sciences has been organized with a foreseen objective of enhancing the research activities at a large scale. Technical Program Committee and Advisory Board of ICDIS-2017 include eminent academicians, researchers, and practitioners from abroad as well as from all over the nation.

In this book, selected manuscripts have been subdivided into two tracks namely—smart hardware and software design and smart computing techniques. A sincere effort has been made to make it an immense source of knowledge by including 27 manuscripts in this proceedings volume. The selected manuscripts have gone through a rigorous review process and are revised by authors after incorporating the suggestions of the reviewers. These manuscripts have been presented at ICDIS-2017 in different technical sessions.

ICDIS-2017 received around 230 submissions from around 550 authors of different countries such as India, Malaysia, Bangladesh, Sri Lanka. Each submission went through the plagiarism check. On the basis of plagiarism report, each submission was rigorously reviewed by at least two reviewers with an average of 1.93 per reviewer. Even some submissions had more than two reviews. On the basis of these reviews, 59 high-quality papers were selected for publication in two proceedings volumes, with an acceptance rate of 25.6%.

We are thankful to our keynote speakers, delegates, authors for their participation and interest in ICDIS-2017 as a platform to share their ideas and insights. We are also thankful to Prof. Dr. Janusz Kacprzyk, Series Editor, AISC, Springer Nature, and Mr. Aninda Bose, Senior Editor, Hard Sciences, Springer Nature, India, for providing continuous guidance and support. Also, we extend our heartfelt gratitude to the reviewers and Technical Program Committee members for showing their concern and efforts in the review process. We are indeed thankful to everyone directly or indirectly associated with the conference organizing team leading it toward the success.

Although utmost care has been taken in compilation and editing, a few errors may still occur. We request the participants to bear with such errors and lapses (if any). We wish you all the best.

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About the Book

With the advent of the digital world, the information and data science came into existence with a wide scope of innovations and implementations. Both of these play a major role in the making of policies and taking decisions within or outside any organization, institution, society, etc.

Data science and information science are complementary to each other, but distinct. Data science is related to an inference of knowledge and meaningful information from data. However, information science deals with the design and development of strategies, methods, and techniques concerned with the analysis, classification, storage, retrieval, dissemination, and protection of information.

Nowadays, information and data science field entered into a new era of technological advancement, which we call *Smart and Intelligent Information and Data Science*. *Smart and Intelligent Information and Data Science* provides the use of artificial intelligence techniques to solve the complex problems related to policy and decision making. We can say that the main objective of *Ambient Computing and Communication Sciences* is to make software, techniques, computing and communication devices, which can be used effectively and efficiently.

Keeping this ideology in preference, this book includes the insights that reflect the immediate surroundings developments in the field of *Smart and Intelligent Information and Data Science* from upcoming researchers and leading academicians across the globe. It contains the high-quality, peer-reviewed papers of ‘*International Conference on Data and Information Sciences (ICDIS-2017)*’, held at Indira Gandhi National Tribal University, Amarkantak, MP, India, during November 17–18, 2017. These papers are arranged in the form of chapters. The contents of this book cover two areas: *Smart Hardware and Software Design, Smart Computing Techniques*. This book helps the prospective readers from industry and academia to derive the immediate surroundings developments in the field of data and information sciences and shape them into real-life applications.

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Dr. Vikash Kumar Singh is with Indira Gandhi National Tribal University, Amarkantak, MP, India, as Associate Professor in Computer Science with focus on artificial intelligence in the Faculty of Computronics. He has also received UGC-NET/JRF. He has more than 17 years of academic experience. He has completed MCA along with Ph.D. His academic and research work includes more than 250 research papers, and he has attended more than 15 national and international conferences, workshops, and seminars. He has been invited by many national/international organizations for delivering expert lectures/courses/keynote addresses/workshops.