

Lecture Notes in Networks and Systems 461

Harish Sharma  
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Kusum Kumari Bharti  
Lipo Wang *Editors*

# Communication and Intelligent Systems

Proceedings of ICCIS 2021

 Springer

# Lecture Notes in Networks and Systems

Volume 461

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ISSN 2367-3370

ISSN 2367-3389 (electronic)

Lecture Notes in Networks and Systems

ISBN 978-981-19-2129-2

ISBN 978-981-19-2130-8 (eBook)

<https://doi.org/10.1007/978-981-19-2130-8>

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

# Preface

This book contains outstanding research papers as the proceedings of the 3rd International Conference on Communication and Intelligent Systems (ICCIS 2021), which was held on 18–19 December 2021 at National Institute of Technology Delhi, India, under the technical sponsorship of the Soft Computing Research Society, India. The conference is conceived as a platform for disseminating and exchanging ideas, concepts, and results of researchers from academia and industry to develop a comprehensive understanding of the challenges of the advancements of intelligence in computational viewpoints. This book will help in strengthening congenial networking between academia and industry. This book presents novel contributions in areas of communication and intelligent systems, and it serves as reference material for advanced research. The topics covered are intelligent system: algorithms and applications, intelligent data analytics and computing, informatics and applications, and communication and control systems.

ICCIS 2021 received a significant number of technical contributed articles from distinguished participants from home and abroad. ICCIS 2021 received 476 research submissions from 43 different countries, viz. Australia, Bahrain, Bangladesh, Brazil, Bulgaria, Burkina Faso, Chile, China, Ecuador, Egypt, Ethiopia, Finland, Germany, India, Iran, Iraq, Italy, Japan, Liberia, Malaysia, Mauritius, Morocco, Nepal, Oman, Poland, Portugal, Romania, Russia, Saudi Arabia, Serbia, Singapore, Slovakia, South Africa, South Korea, Sri Lanka, Thailand, Turkey, Ukraine, United Arab Emirates, UK, USA, Viet Nam, and Yemen. After a very stringent peer-reviewing process, only 92 high-quality papers were finally accepted for presentation and final proceedings.

This book presents novel contributions in areas of communication and intelligent systems, and it serves as reference material for advanced research.

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Jabalpur, India

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**Dr. Vivek Shrivastava** has approx. 20 years of diversified experience of scholarship of teaching and learning, accreditation, research, industrial, and academic leadership in India, China, and USA. Presently, he is holding the position of Dean Research and Consultancy at National Institute of Technology Delhi. Prior to his academic assignments, he has worked as System Reliability Engineer at SanDisk Semiconductors Shanghai, China, and USA. Dr. Shrivastava has significant industrial experience of collaborating with industry and government organizations at SanDisk Semiconductors, and he has made significant contribution to the design development of memory products. He has contributed to the development and delivery of Five-Year Integrated B.Tech.–M.Tech. Program (Electrical Engineering) and Master’s program (Power



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