

Networks And Systems By Ashfaq Hussain

This book gathers the proceedings of the 3rd International Conference on Advanced Intelligent Systems and Informatics 2017 (AISII2017), which took place in Cairo, Egypt from September 9 to 11, 2017. This international and interdisciplinary conference, which highlighted essential research and developments in the field of informatics and intelligent systems, was organized by the Scientific Research Group in Egypt (SRGE). The book's content is divided into five main sections: Intelligent Language Processing, Intelligent Systems, Intelligent Robotics Systems, Informatics, and the Internet of Things.

This book highlights recent research on soft computing, pattern recognition and biologically inspired computing. It presents 24 selected papers from the 11th International Conference on Soft Computing and Pattern Recognition (SoCPaR 2019) and 5 papers from the 11th World Congress on Nature and Biologically Inspired Computing (NaBIC 2019), held at Vardhaman College of Engineering, Hyderabad, India, on December 13–15, 2019. SoCPaR–NaBIC is a premier conference and brings together researchers, engineers and practitioners whose work involves soft computing and bio-inspired computing, as well as their industrial and real-world applications. Including contributions by authors from 15 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.

On behalf of the Program Committee, it is our pleasure to present the proceedings of the 11th International Symposium on Recent Advances in Intrusion Detection (RAID 2008), which took place in Cambridge, Massachusetts, USA on September 15–17. The symposium brought together leading researchers and practitioners from academia, government and industry to discuss intrusion detection research and practice. There were six main sessions presenting full-edged research papers (rootkit prevention, malware detection and prevention, high performance intrusion and evasion, web application testing and evasion, alert correlation and worm detection, and anomaly detection and network traffic analysis), a session of post-emerging research areas and case studies, and two panel discussions (“Government Investments: Successes, Failures and the Future” and “Life after Antivirus - What Does the Future Hold?”). The RAID 2008 Program Committee received 80 paper submissions from all over the world. All submissions were carefully reviewed by at least three independent reviewers on the basis of space, topic, technical assessment, and overall balance. Final selection took place at the Program Committee meeting on May 23rd in Cambridge, MA. Twenty papers were selected for presentation and publication in the conference proceedings, and four papers were recommended for resubmission as poster presentations. As a new feature this year, the symposium accepted submissions for poster presentations, which have been published as extended abstracts, reporting gear-staged research, demonstration of applications, or case studies. Thirty-nine posters were submitted for a numerical review by an independent, three-person subcommittee of the Program Committee based on novelty, description, and evaluation. The subcommittee chose to recommend the acceptance of 16 of these posters for presentation and publication.

This book constitutes the refereed proceedings of the First International Conference on Mobile Ad-hoc and Sensor Networks, MSN 2005, held in Wuhan, China in December 2005. The volume also contains 12 papers of the MSN workshop on Modeling and the Security in the Next Generation Mobile Information Systems (MSNG 2005). The 112 revised full papers were carefully reviewed and selected from a total of 512 submissions. The papers address all current topical areas in mobile ad hoc and sensor networks such as network architecture and protocols, software platforms and development tools, self-organization and synchronization, routing and data dissemination, failure resilience and fault isolation, energy management, data, information, and signal processing, security and privacy, network planning, provisioning, and deployment, network modeling and performance evaluation, developments and applications, as well as integration with other systems.

This two-part handbook focuses on the work that the Agricultural Model Intercomparison and Improvement Project (AgMIP) accomplished using a new method — the AgMIP Regional Integrated Assessment Protocol — in Sub-Saharan Africa (SSA) and South Asia (SA), with funding from the UK Department for International Development. Through this research, AgMIP substantially improves the characterization and understanding of food security in SSA and SA and how it is affected by climate variability and change. The chapters in this handbook demonstrate how AgMIP has enhanced the capacity of developing country researchers and stakeholders to work together, exploring and prioritizing adaptation to current and future climate stresses. Part 1 describes regional integrated assessment methods and analyses, while Part 2 presents the outcomes of farming system studies. The entire volume shows how AgMIP has established, as a public good, protocols for Regional Integrated Assessments that improve the capability of developing countries to address climate change challenges. [Related Link\(s\)](#)

Symmetry-adapted machine learning has shown encouraging ability to mitigate the security risks in information and communication technology (ICT) systems. It is a subset of artificial intelligence (AI) that relies on the principles of processing future events by learning past events or historical data. The autonomous nature of symmetry-adapted machine learning supports effective data processing and analysis for security detection in ICT systems without the interference of human authorities. Many industries are developing machine-learning-adapted solutions to support security for smart hardware, distributed computing, and the cloud. In our Special Issue book, we focus on the deployment of symmetry-adapted machine learning for information security in various application areas. This security approach can support effective methods to handle the dynamic nature of security attacks by extraction and analysis of data to identify hidden patterns of data. The main topics of this Issue include malware classification, an intrusion detection system, image watermarking, color image watermarking, battlefield target aggregation behavior recognition model, IP camera, Internet of Things (IoT) security, service function chain, indoor positioning system, and crypto-analysis.

While cognitive informatics and natural intelligence are receiving greater attention by researchers, multidisciplinary approaches still struggle with fundamental problems involving psychology and neurobiological processes of the brain. Examining the difficulties of certain approaches using the tools already available is vital for propelling knowledge forward and making further strides. Innovations, Algorithms, and Applications in Cognitive Informatics and Natural Intelligence is a collection of innovative research that examines the enhancement of human cognitive performance using emerging technologies. Featuring research on topics such as parallel computing, neuroscience, and signal processing, this book is ideally designed for engineers, computer scientists, programmers, academicians, researchers, and students.

This book constitutes the refereed proceedings of the First International Workshop, IOSEC 2018, sponsored by CIPSEC, held in Heraklion, Crete, Greece, in September 2018. The 12 full papers presented were carefully reviewed and selected from 22 submissions. They were organized in topical sections named: Critical Infrastructure Cybersecurity Issues; CyberSecurity Threats, Assessment and Privacy; and Vulnerability and Malware Detection.

Internet of things (IoT) is an emerging research field that is rapidly becoming an important part of our everyday lives including home automation, smart buildings, smart things, and more. This is due to cheap, efficient, and wirelessly-enabled circuit boards that are enabling the functions of remote sensing/actuating, decentralization, autonomy, and other essential functions. Moreover, with the advancements in embedded artificial intelligence, these devices are becoming more self-aware and autonomous, hence making decisions themselves. Current research is devoted to the understanding of how decision support systems are integrated into industrial IoT. Decision Support Systems and Industrial IoT in Smart Grid, Factories, and Cities presents the internet of things and its place during the technological revolution,

which is taking place now to bring us a better, sustainable, automated, and safer world. This book also covers the challenges being faced such as relations and implications of IoT with existing communication and networking technologies; applications like practical use-case scenarios from the real world including smart cities, buildings, and grids; and topics such as cyber security, user privacy, data ownership, and information handling related to IoT networks. Additionally, this book focuses on the future applications, trends, and potential benefits of this new discipline. This book is essential for electrical engineers, computer engineers, researchers in IoT, security, and smart cities, along with practitioners, researchers, academicians, and students interested in all aspects of industrial IoT and its applications.

Intelligent technologies have emerged as imperative tools in computer science and information security. However, advanced computing practices have preceded new methods of attacks on the storage and transmission of data. Developing approaches such as image processing and pattern recognition are susceptible to breaches in security. Modern protection methods for these innovative techniques require additional research. The Handbook of Research on Intelligent Data Processing and Information Security Systems provides emerging research exploring the theoretical and practical aspects of cyber protection and applications within computer science and telecommunications. Special attention is paid to data encryption, steganography, image processing, and recognition, and it targets professionals who want to improve their knowledge in order to increase strategic capabilities and organizational effectiveness. As such, this book is ideal for analysts, programmers, computer engineers, software engineers, mathematicians, data scientists, developers, IT specialists, academicians, researchers, and students within fields of information technology, information security, robotics, artificial intelligence, image processing, computer science, and telecommunications.

This book constitutes the refereed proceedings of the Fourth International Neural Network Symposia series on Computational Intelligence in Information Systems, INNS-CIIS 2014, held in Bandar Seri Begawan, Brunei in November 2014. INNS-CIIS aims to provide a platform for researchers to exchange the latest ideas and present the most current research advances in general areas related to computational intelligence and its applications in various domains. The 34 revised full papers presented in this book have been carefully reviewed and selected from 72 submissions. They cover a wide range of topics and application areas in computational intelligence and informatics.

The Electrical Engineer's Handbook is an invaluable reference source for all practicing electrical engineers and students. Encompassing 79 chapters, this book is intended to enlighten and refresh knowledge of the practicing engineer or to help educate engineering students. This text will most likely be the engineer's first choice in looking for a solution; extensive, complete references to other sources are provided throughout. No other book has the breadth and depth of coverage available here. This is a must-have for all practitioners and students! The Electrical Engineer's Handbook provides the most up-to-date information in: Circuits and Networks, Electric Power Systems, Electronics, Computer-Aided Design and Optimization, VLSI Systems, Signal Processing, Digital Systems and Computer Engineering, Digital Communication and Communication Networks, Electromagnetics and Control and Systems. About the Editor-in-Chief... Wai-Kai Chen is Professor and Head Emeritus of the Department of Electrical Engineering and Computer Science at the University of Illinois at Chicago. He has extensive experience in education and industry and is very active professionally in the fields of circuits and systems. He was Editor-in-Chief of the IEEE Transactions on Circuits and Systems, Series I and II, President of the IEEE Circuits and Systems Society and is the Founding Editor and Editor-in-Chief of the Journal of Circuits, Systems and Computers. He is the recipient of the Golden Jubilee Medal, the Education Award, and the Meritorious Service Award from the IEEE Circuits and Systems Society, and the Third Millennium Medal from the IEEE. Professor Chen is a fellow of the IEEE and the American Association for the Advancement of Science. * 77 chapters encompass the entire field of electrical engineering. * THOUSANDS of valuable figures, tables, formulas, and definitions. * Extensive bibliographic references.

As future generation information technology (FGIT) becomes specialized and fragmented, it is easy to lose sight that many topics in FGIT have common threads and, because of this, advances in one discipline may be transmitted to others. Presentation of recent results obtained in different disciplines encourages this interchange for the advancement of FGIT as a whole. Of particular interest are hybrid solutions that combine ideas taken from multiple disciplines in order to achieve something more significant than the sum of the individual parts. Through such hybrid philosophy, a new principle can be discovered, which has the propensity to propagate throughout multifaceted disciplines. FGIT 2009 was the first mega-conference that attempted to follow the above idea of hybridization in FGIT in a form of multiple events related to particular disciplines of IT, conducted by separate scientific committees, but coordinated in order to expose the most important contributions. It included the following international conferences: Advanced Software Engineering and Its Applications (ASEA), Bio-Science and Bio-Technology (BSBT), Control and Automation (CA), Database Theory and Application (DTA), Disaster Recovery and Business Continuity (DRBC; published independently), Future Generation Communication and Networking (FGCN) that was combined with Advanced Communication and Networking (ACN), Grid and Distributed Computing (GDC), Multimedia, Computer Graphics and Broadcasting (MulGraB), Security Technology (SecTech), Signal Processing, Image Processing and Pattern Recognition (SIP), and e-Service, Science and Technology (UNESST).

The book features research papers presented at the International Conference on Computer Networks and Inventive Communication Technologies (ICCNCT 2018), offering significant contributions from researchers and practitioners in academia and industry. The topics covered include computer networks, network protocols and wireless networks, data communication technologies, and network security. Covering the main core and specialized issues in the areas of next-generation wireless network design, control, and management, as well as in the areas of protection, assurance, and trust in information security practices, these proceedings are a valuable resource, for researchers, instructors, students, scientists, engineers, managers, and industry practitioners.

This book is a compendium of the proceedings of the International Conference on Big Data and Cloud Computing. It includes recent advances in the areas of big data analytics, cloud computing, internet of nano things, cloud security, data analytics in the cloud, smart cities and grids, etc. This volume primarily focuses on the application of the knowledge that promotes ideas for solving the problems of the society through cutting-edge technologies. The articles featured in this proceeding provide novel ideas that contribute to the growth of world class research and development. The contents of this volume will be of interest to researchers and professionals alike.

This book is intended to serve as a textbook for BE., B. Tech, students of Electrical, Electronics, Computer, Instrumentation, Control and communication Engineering. It will also serve as a text reference for the students of diploma in Engineering. AMIE, GATE, UPSC Engineering services, IAS candidate would also find the book extremely useful. Subject matter in each chapter developed systematically from first principles. Written in a very simple language. Simple and clear explanation of concepts. Large number of carefully selected worked examples. Most simplified methods used. Step-by-step procedures given for solving problems. Ideally suited for self-study.

This book is a collection of accepted papers that were presented at the International Conference on Communication and Computing Systems (ICCCS-2016), Dronacharya College of Engineering, Gurgaon, September 9–11, 2016. The purpose of the conference was to provide a platform for interaction between scientists from industry, academia and other areas of society to discuss the current advancements in the field of communication and computing systems. The papers submitted to the proceedings were peer-reviewed by 2-3 expert referees. This volume

contains 5 main subject areas: 1. Signal and Image Processing, 2. Communication & Computer Networks, 3. Soft Computing, Intelligent System, Machine Vision and Artificial Neural Network, 4. VLSI & Embedded System, 5. Software Engineering and Emerging Technologies.

The interdisciplinary field of smart digital systems is crucial to modern computer science, encompassing artificial intelligence, information systems and engineering. For over a decade the mission of KES International has been to provide publication opportunities for all those who work in knowledge intensive subjects. The conferences they run worldwide are aimed at facilitating the dissemination, transfer, sharing and brokerage of knowledge in a number of leading edge technologies. This book presents some 80 papers selected after peer review for inclusion in three KES conferences, held as part of the Smart Digital Futures 2014 (SDF-14) multi-theme conference in Chania, Greece, in June 2014. The three conferences are: Intelligent Decision Technologies (KES-IDT-14), Intelligence Interactive Multimedia Systems and Services (KES-IIMSS-14), and Smart Technology-based Education and Training (KES-STET-14).

The book will be of interest to all those whose work involves the development and application of intelligent digital systems.

The book contains high quality papers presented in the Fifth International Conference on Innovations in Electronics and Communication Engineering (ICIECE 2016) held at Guru Nanak Institutions, Hyderabad, India during 8 and 9 July 2016. The objective is to provide the latest developments in the field of electronics and communication engineering specially the areas like Image Processing, Wireless Communications, Radar Signal Processing, Embedded Systems and VLSI Design. The book aims to provide an opportunity for researchers, scientists, technocrats, academicians and engineers to exchange their innovative ideas and research findings in the field of Electronics and Communication Engineering.

This book gathers high-quality papers presented at the First International Conference on Sustainable Technologies for Computational Intelligence (ICTSCI 2019), which was organized by Sri Balaji College of Engineering and Technology, Jaipur, Rajasthan, India, on March 29–30, 2019. It covers emerging topics in computational intelligence and effective strategies for its implementation in engineering applications.

Green Information and Communication Systems for a Sustainable Future covers the fundamental concepts, applications, algorithms, protocols, new trends, challenges, and research results in the area of Green Information and Communication Systems. This book provides the reader with up-to-date information on core and specialized issues, making it highly suitable for both the novice and the experienced researcher in the field. The book covers theoretical and practical perspectives on network design. It includes how green ICT initiatives and applications can play a major role in reducing CO2 emissions, and focuses on industry and how it can promote awareness and implementation of Green ICT. The book discusses scholarship and research in green and sustainable IT for business and organizations and uses the power of IT to usher sustainability into other parts of an organization. Business and management educators, management researchers, doctoral scholars, university teaching personnel and policy makers as well as members of higher academic research organizations will all discover this book to be an indispensable guide to Green Information and Communication Systems. It will also serve as a key resource for Industrial and Management training organizations all over the world.

Microgrids are a growing segment of the energy industry, representing a paradigm shift from centralized structures toward more localized, autonomous, dynamic, and bi-directional energy networks, especially in cities and communities. The ability to isolate from the larger grid makes microgrids resilient, while their capability of forming scalable energy clusters permits the delivery of services that make the grid more sustainable and competitive. Through an optimal design and management process, microgrids could also provide efficient, low-cost, clean energy and help to improve the operation and stability of regional energy systems. This book covers these promising and dynamic areas of research and development and gathers contributions on different aspects of microgrids in an aim to impart higher degrees of sustainability and resilience to energy systems.

IAENG Transactions on Engineering Technologies contains forty-nine revised and extended research articles, written by prominent researchers participating in the conference. Topics covered include circuits, engineering mathematics, control theory, communications systems, systems engineering, manufacture engineering, computational biology, chemical engineering, and industrial applications. This book offers the state of art of tremendous advances in engineering technologies and physical science and applications, and also serves as an excellent source of reference for researchers and graduate students working with/on engineering technologies and physical science and applications.

The International Conference on Networking (ICN 2005) was the fourth conference in its series aimed at stimulating technical exchange in the emerging and important field of networking. On behalf of the International Advisory Committee, it is our great pleasure to welcome you to the proceedings of the 2005 event. Networking faces dramatic changes due to the customer-centric view, the venue of the next generation networks paradigm, the push from ubiquitous networking, and the new service models. Despite legacy problems, which researchers and industry are still discovering and improving the state of the art, the horizon has revealed new challenges that some of the authors tackled through their submissions.

In fact ICN 2005 was very well perceived by the international networking community. A total of 651 papers from more than 60 countries were submitted, from which 238 were accepted. Each paper was reviewed by several members of the Technical Program Committee. This year, the Advisory Committee revalidated various accepted papers after the reviews had been incorporated. We perceived a significant improvement in the number of submissions and the quality of the submissions. The ICN 2005 program covered a variety of research topics that are of current interest, starting with Grid networks, multicasting, TCP optimizations, QoS and security, emergency services, and network resiliency. The Program Committee selected also three tutorials and invited speakers that addressed the latest research results from the international industries and academia, and reports on findings from mobile, satellite, and personal communications related to 3rd- and 4th-generation research projects and standardization.

This book is a printed edition of the Special Issue "Applied Artificial Neural Network" that was published in Applied Sciences

These proceedings collect papers presented at the 11th International Conference on Multimedia & Network Information Systems (MISSI 2018), held from 12 to 14 September 2018 in Wrocław, Poland. The keynote lectures, given by four outstanding scientists, are also included here. The Conference attracted a great number of scientists from across Europe and beyond, and hosted the 6th International Workshop on Computational Intelligence for Multimedia Understanding as well as four special sessions. The majority of the papers describe various artificial intelligence (AI) methods applied to multimedia and natural language (NL) processing; they address hot topics such as virtual and augmented reality, identity recognition, video summarization,

intelligent audio processing, accessing multilingual information and opinions, video games, and innovations in Web technologies. Accordingly, the proceedings provide a cutting-edge update on work being pursued in the rapidly evolving field of Multimedia and Internet Information Systems.

This book contains a selection of refereed and revised papers of the Intelligent Distributed Computing Track originally presented at the third International Symposium on Intelligent Informatics (ISI-2014), September 24-27, 2014, Delhi, India. The papers selected for this Track cover several Distributed Computing and related topics including Peer-to-Peer Networks, Cloud Computing, Mobile Clouds, Wireless Sensor Networks, and their applications.

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The edited volume contains original papers contributed to 1st International Conference on Smart System, Innovations and Computing (SSIC 2017) by researchers from different countries. The contributions focus on two main areas, i.e. Smart Systems Innovations which includes applications for smart cities, smart grid, social computing and privacy challenges with their theory, specification, design, performance, and system building. And second Computing of Complex Solutions which includes algorithms, security solutions, communication and networking approaches. The volume provides a snapshot of current progress in related areas and a glimpse of future possibilities. This volume is useful for researchers, Ph.D. students, and professionals working in the core areas of smart systems, innovations and computing.

This book contributes to the multidisciplinary debate about social-ecological systems (SES) within the perspective of rethinking the nature of interaction between these systems, especially in the Anthropocene Era. Most chapters either deliberate on risk dynamics threatening current SES or stimulate thought processes to manage such risks and related negative implications. After analyzing the main drivers of SES vulnerability, the book highlights the shifts to be made to enhance the sustainability and resilience of these systems, mainly the integration and restructuring of governance frameworks, the reorganization of production and consumption systems far from conventional models based on consumerism, the elaboration of mitigation, adaptation, and SDGs implementation measures from a co-benefit perspective, and the consideration of appropriate approaches and paradigms while elaborating and implementing response mechanisms. This volume is relevant to researchers/experts, students, practitioners, and decision-makers from different scales and spheres.

Handbook of Blood Gas/Acid-Base Interpretation, 2nd edition, simplifies concepts in blood gas/acid base interpretation and explains in an algorithmic fashion the physiological processes for managing respiratory and metabolic disorders. With this handbook, medical students, residents, nurses, and practitioners of respiratory and intensive care will find it possible to quickly grasp the principles underlying respiratory and acid-base physiology, and apply them. Uniquely set out in the form of flow-diagrams/algorithms charts, this handbook introduces concepts in a logically organized sequence and gradually builds upon them. The treatment of the subject in this format, describing processes in logical steps makes it easy for the reader to cover a difficult- and sometimes dreaded- subject rapidly.

Artificial intelligence and its various components are rapidly engulfing almost every professional industry. Specific features of AI that have proven to be vital solutions to numerous real-world issues are machine learning and deep learning. These intelligent agents unlock higher levels of performance and efficiency, creating a wide span of industrial applications. However, there is a lack of research on the specific uses of machine/deep learning in the professional realm. Machine Learning and Deep Learning in Real-Time Applications provides emerging research exploring the theoretical and practical aspects of machine learning and deep learning and their implementations as well as their ability to solve real-world problems within several professional disciplines including healthcare, business, and computer science. Featuring coverage on a broad range of topics such as image processing, medical improvements, and smart grids, this book is ideally designed for researchers, academicians, scientists, industry experts, scholars, IT professionals, engineers, and students seeking current research on the multifaceted uses and implementations of machine learning and deep learning across the globe.

Test Prep for Circuit and Network Theory—GATE, PSUS AND ES Examination

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