Rip In Opnet

This book presents the proceedings of the International Conference on Wireless Intelligent and Distributed Environment for Communication (WIDECOM 2019), sponsored by the University of Milan, Milan, Italy, February 11-13, 2019. The conference deals both with the important core and the specialized issues in the areas of new dependability paradigms design and performance of dependable network computing and mobile systems, as well as issues related to the security of these systems. The WIDECOM proceedings features papers addressing issues related to the design, analysis, and implementation, of infrastructures, systems, architectures, algorithms, and protocols that deal with network computing, mobile/ubiquitous systems, cloud systems, and IoT systems. It is a valuable reference for researchers, instructors, students, scientists, engineers, managers, and industry practitioners. The book's structure and content is organized in such a manner that makes it useful at a variety of learning levels. Presents the proceedings of the International Conference on Wireless Intelligent and Distributed Environment for Communication (WIDECOM 2019), Milan, Italy, February 11-13, 2019; Includes an array of topics networking computing, mobile/ubiquitous systems, cloud systems, and IoT systems; Addresses issues related to protecting information security and establishing trust in the digital space.

For fast, easy modeling, this practical guide provides all the essential information you need to know. A wide range of topics is covered, including custom protocols, programming in C++, External Model Access (EMA) modeling and co-simulation with external systems, giving you the guidance not provided in the OPNET documentation. A set of high-level wrapper APIs is

also included to simplify programming custom OPNET models, whether you are a newcomer to OPNET or an experienced user needing to model efficiently. From the basic to the advanced, you will find topics are easy to follow with theory kept to a minimum, many practical tips and answers to frequently asked questions spread throughout the book and numerous step-by-step case studies and real-world network scenarios included.

Nowadays, networks and telecommunications are two of the most active ?elds. Research and development in these areas have been going on for some time, reaching the stage of products. The objectives of HSNMC 2004 (International Conference on High Speed Networks and Multimedia Communications) were to promote research and development activities and to encourage communication between academic researchers and engineers throughout the world in the areas related to high-speed networks and multimedia communications. The seventh edition of HSNMC was held in Toulouse, France, on June 30– July2,2004. Therewere266submissionstoHSNMCthisyearfrom34countries, which were evaluated by program committee members assisted by external - viewers. Each paper was reviewed by several reviewers. One hundred and one papers were selected to be included in these proceedings. The quality of s- missions was high, and the committee had to decline some papers worthy for publication. The papers selected in this book illustrate the state of the art, current d- cussions, and development trends in the areas of networks, telecommunication and multimedia applications. The contributions published in this book und- line the international importance of the related ?eld of research. They cover a variety of topics, such as QoS in Di?Serv networks, QoS analysis and m- surement, performance modelling, TCP modelling and analysis, MPLS for QoS provision, scheduling and resource allocation, routing, multicast,

security and privacy issues, peer-to-peer applications, video applications, software and m-dleware for networks, mobile networks, mobility, satellite, mobile IP, wireless networks, WLAN, ad hoc networks, 3G/UMTS, IEEE 802.

The International Conference on Communications, Management, and Information Technology (ICCMIT'16) provides a discussion forum for scientists, engineers, educators and students about the latest discoveries and realizations in the foundations, theory, models and applications of systems inspired on nature, using computational intelligence methodologies, as well as in emerging areas related to the three tracks of the conference: Communication Engineering, Knowledge, and Information Technology. The best 25 papers to be included in the book will be carefully reviewed and selected from numerous submissions, then revised and expanded to provide deeper insight into trends shaping future ICT.

Machine Learning can be defined in various ways related to a scientific domain concerned with the design and development of theoretical and implementation tools that allow building systems with some Human Like intelligent behavior. Machine learning addresses more specifically the ability to improve automatically through experience.

This book discusses novel intelligent-system algorithms and methods in cybernetics, presenting new approaches in the field of cybernetics and automation control theory. It constitutes the proceedings of the Cybernetics and Automation Control Theory Methods in Intelligent Algorithms Section of the 8th Computer Science On-line Conference 2019 (CSOC 2019), held on-line in April 2019.

The popularity of smart phones and other mobile devices has brought about major expansion in the realm of wireless communications. With this growth comes the need to improve upon

network capacity and overall user experience, and game-based methods can offer further enhancements in this area. Game Theory Framework Applied to Wireless Communication Networks is a pivotal reference source for the latest scholarly research on the application of game-theoretic approaches to enhance wireless networking. Featuring prevailing coverage on a range of topics relating to the advanced game model, mechanism designs, and effective equilibrium concepts, this publication is an essential reference source for researchers, students, technology developers, and engineers. This publication features extensive, research-based chapters across a broad scope of relevant topics, including potential games, coalition formation game, heterogeneous networks, radio resource allocation, coverage optimization, distributed dynamic resource allocation, dynamic spectrum access, physical layer security, and cooperative video transmission.

Smart grid and microgrid technology are growing exponentially as they are adopted throughout the world. These new technologies have revolutionized the way electricity is produced, delivered, and consumed, and offer a plethora of benefits as well as the potential for further growth. It is critical to examine the current stage of smart grid and microgrid development as well as the direction they are headed as they continue to expand in order to ensure that cost-effective, reliable, and efficient systems are put in place. The Research Anthology on Smart Grid and Microgrid Development is an all-encompassing reference source of the latest innovations and trends within smart grid and microgrid development. Detailing benefits, challenges, and opportunities, it is a crucial resource to fully understand the current opportunities that smart grids and microgrids present around the world. Covering a wide range of topics such as traditional grids, future smart grids, electrical distribution systems, and

microgrid integration, it is ideal for engineers, policymakers, systems developers, technologists, researchers, government officials, academicians, environmental groups, regulators, utilities specialists, industry professionals, and students.

This book constitutes the thoroughly refereed post-conference proceedings of the Second International Conference on High Performance Computing and Applications, HPCA 2009, held in Shangahi, China, in August 2009. The 71 revised papers presented together with 10 invited presentations were carefully selected from 324 submissions. The papers cover topics such as numerical algorithms and solutions; high performance and grid computing; novel approaches to high performance computing; massive data storage and processsing; and hardware acceleration.

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This book discusses online engineering and virtual instrumentation, typical working areas for today's engineers and inseparably connected with areas such as Internet of Things, cyber-physical systems, collaborative networks and grids, cyber cloud technologies, and service architectures, to name just a few. It presents the outcomes of the 14th International Conference on Remote Engineering and Virtual Instrumentation (REV2017), held at Columbia University in New York from 15 to 17 March 2017. The conference addressed fundamentals, applications and experiences in the field of online engineering and virtual instrumentation in the light of growing interest in and need for teleworking, remote services and collaborative working environments as a result of the globalization of education. The book also discusses guidelines for education in university-level courses for these topics.

Smart technology has significantly enhanced the efficient management of electric power supply

systems. Despite the benefits of these advances, the complexity of such systems has proven to be difficult for testing purposes. Smart Grid Test Bed Using OPNET and Power Line Communication presents an innovative perspective on the design, development, and implementation of an expandable test bed for smart grid applications. Highlighting pertinent topics such as intrusion detection, user interface, and performance evaluation, this book is an ideal reference source for researchers, academics, engineers, students, and professionals interested in the latest advancements for smart grid technologies.

This book presents selected research papers on current developments in the fields of soft computing and signal processing from the Second International Conference on Soft Computing and Signal Processing (ICSCSP 2019). The respective contributions address topics such as soft sets, rough sets, fuzzy logic, neural networks, genetic algorithms and machine learning, and discuss various aspects of these topics, e.g. technological considerations, product implementation, and application issues.

This proceedings volume highlights the role and importance of Operational Research (OR) in the digital era and the underlying ICT challenges. The selected papers cover recent advances in all branches of operational research, mathematical modeling and decision making. It covers a wide range of key areas from digital economy, to supply chain management, and also finance. The book adopts an applied perspective that covers the contributions of OR in the broad field of business and economics linked with the discipline of computer science. The chapters are based on papers presented at the 6th International Symposium & 28th National Conference on Operational Research. Although the conference is organized by the Hellenic Operational Research Society (HELORS), the contributions in this book promotes international

co-operation among researchers and practitioners working in the field.

Intelligent systems are required to facilitate the use of information provided by the internet and other computer based technologies. This book describes the state-of-the-art in Intelligent Automation and Systems Engineering. Topics covered include Intelligent decision making, Automation, Robotics, Expert systems, Fuzzy systems, Knowledge-based systems, Knowledge extraction, Large database management, Data analysis tools, Computational biology, Optimization algorithms, Experimental designs, Complex system identification, Computational modeling, Systems simulation, Decision modeling, and industrial applications. A crucial step during the design and engineering of communication systems is the estimation of their performance and behavior; especially for mathematically complex or highly dynamic systems network simulation is particularly useful. This book focuses on tools, modeling principles and state-of-the art models for discrete-event based network simulations, the standard method applied today in academia and industry for performance evaluation of new network designs and architectures. The focus of the tools part is on two distinct simulations engines: OmNet++ and ns-3, while it also deals with issues like parallelization, software integration and hardware simulations. The parts dealing with modeling and models for network simulations are split into a wireless section and a section dealing with higher layers. The wireless section covers all essential modeling principles for dealing with physical layer, link layer and wireless channel behavior. In addition, detailed models for prominent wireless systems like IEEE 802.11 and IEEE 802.16 are presented. In the part on higher layers, classical modeling approaches for the network layer, the transport layer and the application layer are presented in addition to modeling approaches for peer-to-peer networks and

topologies of networks. The modeling parts are accompanied with catalogues of model implementations for a large set of different simulation engines. The book is aimed at master students and PhD students of computer science and electrical engineering as well as at researchers and practitioners from academia and industry that are dealing with network simulation at any layer of the protocol stack.

The present book includes a set of selected extended papers from the 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH 2014), held in Vienna, Austria, from 28 to 30 August 2014. The conference brought together researchers, engineers and practitioners interested in methodologies and applications of modeling and simulation. New and innovative solutions are reported in this book. SIMULTECH 2014 received 167 submissions, from 45 countries, in all continents. After a double blind paper review performed by the Program Committee, 23% were accepted as full papers and thus selected for oral presentation. Additional papers were accepted as short papers and posters. A further selection was made after the Conference, based also on the assessment of presentation quality and audience interest, so that this book includes the extended and revised versions of the very best papers of SIMULTECH 2014. Commitment to high quality standards is a major concern of SIMULTECH that will be maintained in the next editions, considering not only the stringent paper acceptance ratios but also the quality of the program committee, keynote lectures, participation level and logistics.

The three volume set LNICST 84 - LNICST 86 constitute the refereed proceedings ofthe Second International Conference on Computer Science and InformationTechnology, CCSIT 2012, held in Bangalore, India, in January 2012. The 70 revised full papers presented in this

volume were carefullyreviewed and selected from numerous submissions and address all major fields ofthe Computer Science and Information Technology in theoretical, methodological,and practical or applicative aspects. The papers feature cutting-edge developmentand current research in computer science and engineering.

One of the first books to provide a comprehensive description of OPNET® IT Guru and Modeler software, The Practical OPNET® User Guide for Computer Network Simulation explains how to use this software for simulating and modeling computer networks. The included laboratory projects help readers learn different aspects of the software in a hands-on way. Quickly Locate Instructions for Performing a Task The book begins with a systematic introduction to the basic features of OPNET, which are necessary for performing any network simulation. The remainder of the text describes how to work with various protocol layers using a top-down approach. Every chapter explains the relevant OPNET features and includes step-by-step instructions on how to use the features during a network simulation. Gain a Better Understanding of the "Whats" and "Whys" of the Simulations Each laboratory project in the back of the book presents a complete simulation and reflects the same progression of topics found in the main text. The projects describe the overall goals of the experiment, discuss the general network topology, and give a high-level description of the system configuration required to complete the simulation. Discover the Complex Functionality Available in OPNET By providing an in-depth look at the rich features of OPNET software, this guide is an invaluable reference for IT professionals and researchers who need to create simulation models. The book also helps newcomers understand OPNET by organizing the material in a logical manner that corresponds to the protocol layers in a network.

This text explains the general principles of how wireless systems work, how mobility is supported, what the underlying infrastructure is and what interactions are needed among different functional components. Designed as a textbook appropriate for undergraduate or graduate courses in Computer Science (CS), Computer Engineering (CE), and Electrical Engineering (EE), Introduction to Wireless and Mobile Systems third edition focuses on qualitative descriptions and the realistic explanations of relationships between wireless systems and performance parameters. Rather than offering a thorough history behind the development of wireless technologies or an exhaustive list of work being carried out, the authors help CS, CE, and EE students learn this exciting technology through relevant examples such as understanding how a cell phone starts working as soon as they get out of an airplane. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This book gathers the proceedings of the International Conference on Advanced Information Technology, Services and Systems (AIT2S-18), which was held in Mohammedia, Morocco on October 17–18, 2018. Presenting the latest research in the fields of Modern Information Engineering Concepts and Communication Systems, the book will also be of interest to those working in emerging fields such as Advances in Networking and Sensor Networks, Advances in Software Engineering, Multimedia Systems, E-learning, Big Data, Intelligent Information Systems and Advances in Natural Language Processing.

This book has been prepared to present state of the art on WiMAX Technology. It has been constructed with the support of many researchers around the world, working on resource allocation, quality of service and WiMAX applications. Such many different works on WiMAX,

show the great worldwide importance of WiMAX as a wireless broadband access technology. This book is intended for readers interested in resource allocation and quality of service in wireless environments, which is known to be a complex problem. All chapters include both theoretical and technical information, which provides an in depth review of the most recent advances in the field for engineers and researchers, and other readers interested in WiMAX. The Practical OPNET User Guide for Computer Network SimulationCRC Press Fuzzy Logic Foundations and Industrial Applications is an organized edited collection of contributed chapters covering basic fuzzy logic theory, fuzzy linear programming, and applications. Special emphasis has been given to coverage of recent research results, and to industrial applications of fuzzy logic. The chapters are new works that have been written exclusively for this book by many of the leading and prominent researchers (such as Ronald Yager, Ellen Hisdal, Etienne Kerre, and others) in this field. The contributions are original and each chapter is self-contained. The authors have been careful to indicate direct links between fuzzy set theory and its industrial applications. Fuzzy Logic Foundations and Industrial Applications is an invaluable work that provides researchers and industrial engineers with up-to-date coverage of new results on fuzzy logic and relates these results to their industrial use. La simulación por computadora es una de las estrategias más poderosa de las que dispone en la actualidad la ciencia para predecir sucesos en sistemas con un alto grado de complejidad. Esta obra concebida como producto de los trabajos de experimentación desarrollados por el Grupo de Investigación en Redes de Computadores e Ingeniería de Software (GReCIS) de la Universidad del Norte, a

través de cursos de Calidad del Servicio y tesis de grado , tiene como objetivo apoyar a los estudiantes de Maestría en Ingeniería de Sistemas y carreras afines en la solución de problemas relacionados con la modelación y simulación de redes de computadores con aplicación de QoS.

This book focuses on the principles of wireless sensor networks (WSNs), their applications, and their analysis tools, with meticulous attention paid to definitions and terminology. This book presents the adopted technologies and their manufacturers in detail, making WSNs tangible for the reader. In introductory computer networking books, chapter sequencing follows the bottom-up or top-down architecture of the 7-layer protocol. This book addresses subsequent steps in this process, both horizontally and vertically, thus fostering a clearer and deeper understanding through chapters that elaborate on WSN concepts and issues. With such depth, this book is intended for a wide audience; it is meant to be a helper and motivator for senior undergraduates, postgraduates, researchers, and practitioners. It lays out important concepts and WSN-relate applications; uses appropriate literature to back research and practical issues; and focuses on new trends. Senior undergraduate students can use it to familiarize themselves with conceptual foundations and practical project implementations. For graduate students and researchers, test beds and simulators provide vital insights into analysis methods and tools for WSNs. Lastly, in addition to applications and deployment, practitioners will be able to learn more about WSN

manufacturers and components within several platforms and test beds.

This book includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Industrial Electronics, Technology, Automation, Telecommunications and Networking. The book includes selected papers from the conference proceedings of the International Conference on Industrial Electronics, Technology, Automation (IETA 2006) and International Conference on Telecommunications and Networking (TeNe 06).

Emulation is a hybrid experimentation technique intended to bridge the gap between simulation and real-world testing. The key idea of emulation is to reproduce in real time and in a controlled manner the essential functionality of a system, so that it can interact with other real systems that can thus be evaluated. This book describes the technique of network emulation and compares it with the other experimental approaches: the scholarly analytical modeling, the popular network simulation, and the demanding real-world testing. To emphasize the practical aspects related to emulation, this book presents a large number of examples of network emulators on the market, as well as provides an in-depth analysis of a case study, the wireless network emulation testbed called QOMB.

Network Simulation Experiments Manual, Second Edition, enables networking professional to visualize how networks work by providing free access to easy-to-install OPNET software. This software provides a virtual environment for modeling, analyzing,

and predicting the performance of IT infrastructures, including applications, servers, and networking technologies. The book also goes a step further by providing detailed experiments on core networking topologies for use in this simulation environment. Each experiment is also accompanied by review questions, a lab report, and exercises. This book is recommended for graduate students and networking designers and professionals. Useful experimentation for professionals in the workplace who are interested in learning and demonstrating the capability of evaluating different commercial networking products The experiments in this manual are closely tied to Peterson/Davie: Computer Networks, fourth edition (a best-selling Morgan Kaufmann title), making it a perfect companion book.

Novel Algorithms and Techniques in Telecommunications, Automation and Industrial Electronics includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Industrial Electronics, Technology and Automation, Telecommunications and Networking. Novel Algorithms and Techniques in Telecommunications, Automation and Industrial Electronics includes selected papers form the conference proceedings of the International Conference on Industrial Electronics, Technology and Automation (IETA 2007) and International Conference on Telecommunications and Networking (TeNe 07) which were part of the International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2007).

The second volume of the book series highlights works presented at the 2nd International Conference on Real Time Intelligent Systems, held in Casablanca on October 18-20, 2017?. The book offers a comprehensive, practical review of the state-of-the-art in designing and implementing real-time intelligent computing for the areas within the conference's scope such as robotics, intelligent alert systems, IoT, remote access control, multi-agent systems, networking, mobile smart systems, crowdsourcing, broadband systems, cloud computing, streaming data and many other applications. Research in real-time computing supports decision making in dynamic environments. Some examples include ABS, FBW flight control, automatic air-conditioning, etc. Intelligent computing relies heavily on artificial intelligence (AI) to make computers act for humans. The authors are confident that the solutions discussed in this book will provide a unique source of information and inspiration for researchers working in AI, distributed coding algorithms or smart services and platforms, and for IT professionals, who can integrate the proposed methods into their practice.

The volume, complexity, and irregularity of computational data in modern algorithms and simulations necessitates an unorthodox approach to computing. Understanding the facets and possibilities of soft computing algorithms is necessary for the accurate and timely processing of complex data. Research Advances in the Integration of Big Data and Smart Computing builds on the available literature in the realm of Big Data while providing further research opportunities in this dynamic field. This publication provides

the resources necessary for technology developers, scientists, and policymakers to adopt and implement new paradigms in computational methods across the globe. The chapters in this publication advance the body of knowledge on soft computing techniques through topics such as transmission control protocol for mobile ad hoc networks, feature extraction, comparative analysis of filtering techniques, big data in economic policy, and advanced dimensionality reduction methods.

Moderne kombinierte Computernetze in Gebäuden, wie beispielsweise WLAN oder WSN sind sehr komplex. Eine sorgfältige Netzwerkplanung vermeidet Entwurfsfehler und trägt damit zur Verhinderung unnötiger Übertragungsengpässe und kostspieliger Veränderungsarbeiten bei. Das von den Autoren entwickelte CAD System CANDY Framework bietet einen integrierten Ansatz für die relevanten Planungsaktivitäten im Lebenszyklus von Rechnernetzen. Es stellt eine einheitliche Plattform dar, die aus mehreren Tools für unterschiedliche Aufgabenbereiche besteht. Das Lehrbuch beinhaltet einen bedeutsamen Umfang von gut bewährten theoretischen und aktuellen praktischen Lerninhalten. Moderne Projektierungsmethoden und -tools für kombinierte drahtlose Kommunikations- und Automatisierungsnetze (Wi-Fi, WiMAX, WSN) mit Festnetzstrecken (Ethernet) werden veranschaulicht. Im Buch wird außerdem zahlreiche aussagekräftige und umfangreiche Beispiele der Planung und Optimierung drahtloser Kommunikations- und Automatisierungsnetze (Wi-Fi, WiMAX, WSN) u.a. unter Nutzung von MATLAB eingeführt.

Communication, Management and Information Technology contains the contributions presented at the International Conference on Communication, Management and Information Technology (ICCMIT 2016, Cosenza, Italy, 26-29 April 2016, organized by the Universal Society of Applied Research (USAR). The book aims at researchers, scientists, engineers, and scholar students interested or involved in Computer Science and Systems, Communication, and Management.

An indispensable reference publication for telecommunication and information-industry professionals. Each year, the IEC brings together into one unique resource the most current thinking and practical experience of industry leaders around the world on a variety of topics facing their areas of specialization. This 700+ page reference tool is a must for executives, managers, engineers, analysts, and educators in all sectors of today's changing information industry.

Network Simulation Experiments Manual, Third Edition, is a practical tool containing detailed, simulation-based experiments to help students and professionals learn about key concepts in computer networking. It allows the networking professional to visualize how computer networks work with the aid of a software tool called OPNET to simulate network function. OPNET provides a virtual environment for modeling, analyzing, and predicting the performance of IT infrastructures, including applications, servers, and networking technologies. It can be downloaded free of charge and is easy to install. The book's simulation approach provides a virtual environment for a wide range of

desirable features, such as modeling a network based on specified criteria and analyzing its performance under different scenarios. The experiments include the basics of using OPNET IT Guru Academic Edition; operation of the Ethernet network; partitioning of a physical network into separate logical networks using virtual local area networks (VLANs); and the basics of network design. Also covered are congestion control algorithms implemented by the Transmission Control Protocol (TCP); the effects of various queuing disciplines on packet delivery and delay for different services; and the role of firewalls and virtual private networks (VPNs) in providing security to shared public networks. Each experiment in this updated edition is accompanied by review questions, a lab report, and exercises. Networking designers and professionals as well as graduate students will find this manual extremely helpful. Updated and expanded by an instructor who has used OPNET simulation tools in his classroom for numerous demonstrations and real-world scenarios. Software download based on an award-winning product made by OPNET Technologies, Inc., whose software is used by thousands of commercial and government organizations worldwide, and by over 500 universities. Useful experimentation for professionals in the workplace who are interested in learning and demonstrating the capability of evaluating different commercial networking products, i.e., Cisco routers. Covers the core networking topologies and includes assignments on Switched LANs, Network Design, CSMA, RIP, TCP, Queuing Disciplines, Web Caching, etc.

"This book gives a general coverage of learning management systems followed by a comparative analysis of the particular LMS products, review of technologies supporting different aspect of educational process, and, the best practices and methodologies for LMS-supported course delivery"--Provided by publisher.

IMDC-SDSP conference offers an exceptional platform and opportunity for practitioners, industry experts, technocrats, academics, information scientists, innovators, postgraduate students, and research scholars to share their experiences for the advancement of knowledge and obtain critical feedback on their work. The timing of this conference coincides with the rise of Big Data, Artificial Intelligence powered applications, Cognitive Communications, Green Energy, Adaptive Control and Mobile Robotics towards maintaining the Sustainable Development and Smart Planning and management of the future technologies. It is aimed at the knowledge generated from the integration of the different data sources related to a number of active real-time applications in supporting the smart planning and enhance and sustain a healthy environment. The conference also covers the rise of the digital health, well-being, home care, and patient-centred era for the benefit of patients and healthcare providers; in addition to how supporting the development of a platform of smart Dynamic Health Systems and self-management.