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### KEY=AND - GRETCHEN HARRELL

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#### SOFTWARE ENGINEERING AND KNOWLEDGE ENGINEERING: THEORY AND PRACTICE

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Springer Science & Business Media The volume includes a set of selected papers extended and revised from the I2009 Pacific-Asia Conference on Knowledge Engineering and Software Engineering (KESE 2009) was held on December 19~ 20, 2009, Shenzhen, China. Volume 1 is to provide a forum for researchers, educators, engineers, and government officials involved in the general areas of Computer and Software Engineering to disseminate their latest research results and exchange views on the future research directions of these fields. 140 high-quality papers are included in the volume. Each paper has been peer-reviewed by at least 2 program committee members and selected by the volume editor Prof. Yanwen Wu. On behalf of this volume, we would like to express our sincere appreciation to all of authors and referees for their efforts reviewing the papers. Hoping you can find lots of profound research ideas and results on the related fields of Computer and Software Engineering.

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#### PRACTICAL DISTRIBUTED CONTROL SYSTEMS (DCS) FOR ENGINEERS AND TECHNICIANS

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#### PERSONAL COMPUTERS AND DIGITAL SIGNAL PROCESSING

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Bookboon

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#### SECOND CONFERENCE ON CONTROL ENGINEERING, 1982

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#### "MERGING OF TECHNOLOGY AND THEORY TO SOLVE INDUSTRIAL AUTOMATION PROBLEMS," NEWCASTLE, 25-27 AUGUST 1982 : PREPRINTS OF PAPERS

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Accents Publications Service

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#### RESEARCH DIRECTIONS IN DISTRIBUTED PARAMETER SYSTEMS

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SIAM Eleven chapters, written by experts in their respective fields, on topics ranging from control of the Navier-Stokes equations to nondestructive evaluation - all of which are modeled by distributed parameter systems.

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#### TOWARDS A SYNERGISTIC COMBINATION OF RESEARCH AND PRACTICE IN SOFTWARE ENGINEERING

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Springer This book reports on recent advances in software engineering research and practice. Divided into 15 chapters, it addresses: languages and tools; development processes; modelling, simulation and verification; and education. In the first category, the book includes chapters on domain-specific languages, software complexity, testing and tools. In the second, it reports on test-driven development, processing of business rules, and software management. In turn, subsequent chapters address modelling, simulation and verification of real-time systems, mobile systems and computer networks, and a scrum-based framework. The book was written by researchers and practitioners, the goal being to achieve a synergistic combination of research results achieved in academia and best practices used in the industry, and to provide a valuable reference guide for both groups.

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#### SCIENTIFIC ENGINEERING OF DISTRIBUTED JAVA APPLICATIONS

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#### 4TH INTERNATIONAL WORKSHOP, FIDJI 2004, LUXEMBOURG-KIRCHBERG, LUXEMBOURG, NOVEMBER 24-25, 2004, REVISED SELECTED PAPERS

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Springer Science & Business Media This book constitutes the thoroughly refereed post-proceedings of the 4th International Workshop on Scientific Engineering of Distributed Java Applications, FIDJI 2004, held in Luxembourg-Kirchberg, Luxembourg in November 2004. The 11 revised full papers presented together with the abstracts of 2 keynote talks and 1 tutorial were carefully selected during two rounds of reviewing and improvement. Among the topics covered are the design of distributed applications; development of reliable and secure distributed systems; software architectures, frameworks, and design patterns; formal methods; model driven software development; Web services; mobility; component-based distributed systems; exceptional handling; UML statecharts; and embedded software.

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#### CIVIL ENGINEER'S HANDBOOK OF PROFESSIONAL PRACTICE

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John Wiley & Sons A well-written, hands-on, single-source guide to the professional practice of civil engineering There is a growing understanding that to be competitive at an international level, civil engineers not only must build on their traditional strengths in technology and science but also must acquire greater mastery of the business of civil engineering. Project management, teamwork, ethics, leadership, and communication have been defined as essential to the successful practice of civil engineering by the ASCE in the 2008 landmark publication, Civil Engineering Body of Knowledge for the 21st Century (BOK2). This single-source guide is the first to take the practical skills defined by the ASCE BOK2 and provide illuminating techniques, quotes, case examples, problems, and information to assist the reader in addressing the many challenges facing civil engineers in the real world. Civil Engineer's Handbook of Professional Practice: Focuses on the business and management aspects of a civil engineer's job, providing students and practitioners with sound business management principles Addresses contemporary issues such as permitting, globalization, sustainability, and emerging technologies Offers proven methods for balancing speed, quality, and price with contracting and legal issues in a client-oriented profession Includes guidance on juggling career goals, life outside work, compensation, and growth From the challenge of sustainability to the rigors of problem recognition and solving, this book is an essential tool for those practicing civil engineering.

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#### PRINCIPLES OF DISTRIBUTED DATABASE SYSTEMS

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Springer Nature The fourth edition of this classic textbook provides major updates. This edition has completely new chapters on Big Data Platforms (distributed storage systems, MapReduce, Spark, data stream processing, graph analytics) and on NoSQL, NewSQL and polystore systems. It also includes an updated web data management chapter that includes RDF and semantic web discussion, an integrated database integration chapter focusing both on schema integration and querying over these systems. The peer-to-peer computing chapter has been updated with a discussion of blockchains. The chapters that describe classical distributed and parallel database technology have all been updated. The new edition covers the breadth and depth of the field from a modern viewpoint.

Graduate students, as well as senior undergraduate students studying computer science and other related fields will use this book as a primary textbook. Researchers working in computer science will also find this textbook useful. This textbook has a companion web site that includes background information on relational database fundamentals, query processing, transaction management, and computer networks for those who might need this background. The web site also includes all the figures and presentation slides as well as solutions to exercises (restricted to instructors).

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#### **DISTRIBUTED COMPUTER CONTROL SYSTEMS--1981**

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#### **PROCEEDINGS OF THE THIRD IFAC WORKSHOP, BEIJING, CHINA, 15-17 AUGUST, 1981**

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Pergamon Eighteen papers ranging from control theory to the practical aspects of the process by which control computers are designed & built. Covers DCCS design & architecture, communication, structure & specification.

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#### **SYSTEMS ENGINEERING PRINCIPLES AND PRACTICE**

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John Wiley & Sons The first edition of this unique interdisciplinary guide has become the foundational systems engineering textbook for colleges and universities worldwide. It has helped countless readers learn to think like systems engineers, giving them the knowledge, skills, and leadership qualities they need to be successful professionals. Now, colleagues of the original authors have upgraded and expanded the book to address the significant advances in this rapidly changing field. An outgrowth of the Johns Hopkins University Master of Science Program in Engineering, *Systems Engineering: Principles and Practice* provides an educationally sound, entry-level approach to the subject, describing tools and techniques essential for the development of complex systems. Exhaustively classroom tested, the text continues the tradition of utilizing models to assist in grasping abstract concepts, emphasizing application and practice. This Second Edition features: Expanded topics on advanced systems engineering concepts beyond the traditional systems engineering areas and the post-development stage Updated DOD and commercial standards, architectures, and processes New models and frameworks for traditional structured analysis and object-oriented analysis techniques Improved discussions on requirements, systems management, functional analysis, analysis of alternatives, decision making and support, and operational analysis Supplemental material on the concept of the system boundary Modern software engineering techniques, principles, and concepts Further exploration of the system engineer's career to guide prospective professionals Updated problems and references The Second Edition continues to serve as a graduate-level textbook for courses introducing the field and practice of systems engineering. This very readable book is also an excellent resource for engineers, scientists, and project managers involved with systems engineering, as well as a useful textbook for short courses offered through industry seminars.

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#### **CONTROL ENGINEERING SOLUTIONS**

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#### **A PRACTICAL APPROACH**

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IET This book collects together in one volume a number of suggested control engineering solutions which are intended to be representative of solutions applicable to a broad class of control problems. It is neither a control theory book nor a handbook of laboratory experiments, but it does include both the basic theory of control and associated practical laboratory set-ups to illustrate the solutions proposed.

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#### **DISTRIBUTED AUTONOMOUS ROBOTIC SYSTEMS 2**

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Springer Science & Business Media Great interest is now focused on distributed autonomous robotic systems (DARS) as a new strategy for the realization of flexible, robust, and intelligent robots. Inspired by autonomous, decentralized, and self-organizing biological systems, the field of DARS encompasses broad interdisciplinary technologies related not only to robotics and computer engineering but also to biology and psychology. The rapidly growing interest in this new area of research was manifest in the first volume of *Distributed Autonomous Robotic Systems*, published in 1994. This second volume in the series presents the most recent work by eminent researchers and includes such topics as multirobot control, distributed robotic systems design, self-organizing systems, and sensing and navigation for cooperative robots. *Distributed Autonomous Robotic Systems 2* is a valuable source for those whose work involves robotics and will be of great interest to those in the fields of artificial intelligence, self-organizing systems, artificial life, and computer science.

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#### **NETWORKED AND DISTRIBUTED PREDICTIVE CONTROL**

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#### **METHODS AND NONLINEAR PROCESS NETWORK APPLICATIONS**

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Springer Science & Business Media *Networked and Distributed Predictive Control* presents rigorous, yet practical, methods for the design of networked and distributed predictive control systems - the first book to do so. The design of model predictive control systems using Lyapunov-based techniques accounting for the influence of asynchronous and delayed measurements is followed by a treatment of networked control architecture development. This shows how networked control can augment dedicated control systems in a natural way and takes advantage of additional, potentially asynchronous and delayed measurements to maintain closed loop stability and significantly to improve closed-loop performance. The text then shifts focus to the design of distributed predictive control systems that cooperate efficiently in computing optimal manipulated input trajectories that achieve desired stability, performance and robustness specifications but spend a fraction of the time required by centralized control systems. Key features of this book include: • new techniques for networked and distributed control system design; • insight into issues associated with networked and distributed predictive control and their solution; • detailed appraisal of industrial relevance using computer simulation of nonlinear chemical process networks and wind- and solar-energy-generation systems; and • integrated exposition of novel research topics and rich resource of references to significant recent work. A full understanding of *Networked and Distributed Predictive Control* requires a basic knowledge of differential equations, linear and nonlinear control theory and optimization methods and the book is intended for academic researchers and graduate students studying control and for process control engineers. The constant attention to practical matters associated with implementation of the theory discussed will help each of these groups understand the application of the book's methods in greater depth.

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#### **ISSUES IN SYSTEMS ENGINEERING: 2011 EDITION**

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ScholarlyEditions *Issues in Systems Engineering / 2011 Edition* is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Systems Engineering. The editors have built *Issues in Systems Engineering: 2011 Edition* on the vast information databases of ScholarlyNews.™ You can expect the information about Systems Engineering in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of *Issues in Systems Engineering: 2011 Edition* has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

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#### **PRACTICAL CONTROL ENGINEERING: GUIDE FOR ENGINEERS, MANAGERS, AND PRACTITIONERS**

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#### **GUIDE FOR ENGINEERS, MANAGERS, AND PRACTITIONERS**

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McGraw Hill Professional *An Essential Guide to Control Engineering Fundamentals* Understand the day-to-day procedures of today's control engineer with the pragmatic insights and techniques contained in this unique resource. Written in clear, concise language, *Practical Control Engineering* shows, step-by-step, how engineers simulate real-world phenomena using dynamic models and algorithms. Learn how to handle single and multiple-staged systems, implement error-free feedback control, eliminate anomalies, and work in the frequency and discrete-time domains. Extensive appendices cover basic calculus, differential equations, vector math, Laplace and Z-transforms, and Matlab basics. *Practical Control Engineering* explains how to: Gain insight into control engineering and process analysis Write and debug algorithms that simulate physical processes Understand feedback, feedforward, open loops, and cascade controls Build behavioral models using basic applied mathematics Analyze lumped, underdamped, and distributed processes Comprehend matrix, vector, and state estimation concepts Convert from continuous to discrete-time and frequency domains Filter out white noise, colored noise, and stochastic disturbances

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## CURRENT ENGINEERING PRACTICE

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### ENGINEERING PRACTICE IN A GLOBAL CONTEXT

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#### UNDERSTANDING THE TECHNICAL AND THE SOCIAL

CRC Press This volume aims to provide the reader with a broad cross-section of empirical research being carried out into engineers at work. The chapters provide pointers to other relevant studies over recent decades - an important aspect, we believe, because this area has only recently begun to coalesce as a field of study and up to now relevant empirical research has tended to be published across a range of academic disciplines. This lack of readily available literature might explain why contemporary notions of engineering have drifted far from the realities of practice and are in urgent need of revision. The principal focus is on what empirical studies tell us about the social and technical aspects of engineering practice and the mutual interaction between the two. After a foreword by Gary Lee Downey, the research presented by the various chapter authors is based on empirical data from studies of engineers working in a variety of global settings that include Australia, Ireland, Portugal, South Asia, Switzerland, the UK and the US. The following groups of readers are addressed: •researchers and students with an interest in engineering practice, •professional engineers, particularly those interested in research on engineering practice, •engineering educators, •people who employ, recruit or work with engineers. Providing a much clearer picture of engineering practice and its variations than has been available until now, the book is of interest to engineers and those who work with them. At the same time it provides invaluable resource material for educators who are aiming for more authentic learning experiences in their classrooms. Further information, visit the website Engineering Practice in a Global Context Online: <http://epr.ist.utl.pt/EPGC/>

#### PRACTICAL DISTRIBUTED CONTROL SYSTEMS FOR ENGINEERS AND TECHNICIANS

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#### DISTRIBUTED COMPUTER CONTROL SYSTEMS IN INDUSTRIAL AUTOMATION

CRC Press A reference guide for professionals or text for graduate and postgraduate students, this volume emphasizes practical designs and applications of distributed computer control systems. It demonstrates how to improve plant productivity, enhance product quality, and increase the safety, reliability, and

#### SOFTWARE ENGINEERING: PRACTICAL APPROACH DRIVEN

An introductory course in Software Engineering remains one of the hardest subjects to teach largely because of the wide range of topics the area encompasses. We have believed for some time that we often tend to teach too many concepts and topics in an introductory course resulting in shallow knowledge and little insight on the application of these concepts. And Software Engineering is finally about the application of concepts to efficiently engineer good software solutions. We believe that an introductory course in Software Engineering should focus on imparting to students the knowledge and skills that are needed to successfully execute a commercial project of a few person-months efforts while employing proper practices and techniques. It is worth pointing out that a vast majority of the projects executed in the industry today fall in this scope—executed by a small team over a few months. I also believe that by carefully selecting the concepts and topics, we can, in the course of a semester, achieve this. This is the motivation of this book. The goal of this book is to introduce to the students a limited number of concepts and practices which will achieve the following two objectives: Teach the student the skills needed to execute a smallish commercial project. Provide the students with the necessary conceptual background for undertaking advanced studies in software engineering, through courses or on their own. I have included in this book only those concepts that I believe are foundational and through which the two objectives mentioned above can be met. Advanced topics have been consciously left out. As executing a software project requires skills in two dimensions—engineering and project management, this book focuses on key tasks in these two dimensions and discusses concepts and techniques that can be applied to effectively execute these tasks. The book is organized in a simple manner, with one chapter for each of the key tasks in a project. For engineering, these tasks are requirements analysis and specification, architecture design, module-level design, coding and unit testing, and testing. For project management, the key tasks are project planning and project monitoring and control, but both are discussed together in one chapter on project planning as even monitoring has to be planned. In addition, the book contains one chapter that clearly defines the problem domain of Software Engineering and another Chapter that discusses the central concept of software process which integrates the different tasks executed in a project. Each chapter opens with some introduction and what the reader can expect to learn from the chapter. For the task covered in the chapter, the important concepts are first discussed, followed by a discussion of the output of the task, the desired quality properties of the output, and some practical methods and notations for performing the task. The explanations are supported by examples, and the key learnings are summarized in the end for the reader.

#### AGENT AND WEB SERVICE TECHNOLOGIES IN VIRTUAL ENTERPRISES

IGI Global Provides a comprehensive review of the most recent advances in agent and Web service technologies. Provides an integrated view of the most recent contributions that support formation, integration, collaboration, and operation in virtual enterprise. Presents examples of applications of these technologies throughout various aspects of the virtual enterprise life cycle.

#### ROBUST CONTROL ENGINEERING

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#### PRACTICAL QFT SOLUTIONS

CRC Press This book thoroughly covers the fundamentals of the QFT robust control, as well as practical control solutions, for unstable, time-delay, non-minimum phase or distributed parameter systems, plants with large model uncertainty, high-performance specifications, nonlinear components, multi-input multi-output characteristics or asymmetric topologies. The reader will discover practical applications through a collection of fifty successful, real world case studies and projects, in which the author has been involved during the last twenty-five years, including commercial wind turbines, wastewater treatment plants, power systems, satellites with flexible appendages, spacecraft, large radio telescopes, and industrial manufacturing systems. Furthermore, the book presents problems and projects with the popular QFT Control Toolbox (QFTCT) for MATLAB, which was developed by the author.

#### RESILIENCE ENGINEERING IN PRACTICE

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#### A GUIDEBOOK

Ashgate Publishing, Ltd. Resilience engineering depends on four abilities: the ability a) to respond to what happens, b) to monitor critical developments, c) to anticipate future threats and opportunities, and d) to learn from past experience - successes as well as failures. They

#### TRANSFINITE INTERPOLATION AND EULERIAN/LAGRANGIAN DYNAMICS

SIAM This book introduces transfinite interpolation as a generalization of interpolation of data prescribed at a finite number of points to data prescribed on a geometrically structured set, such as a piece of curve, surface, or submanifold. The time-independent theory is readily extended to a moving/deforming data set whose dynamics is specified in a Eulerian or Lagrangian framework. The resulting innovative tools cover a very broad spectrum of applications in fluid mechanics, geometric optimization, and imaging. The authors chose to focus on the dynamical mesh updating in fluid mechanics and the construction of velocity fields from the boundary expression of the shape derivative. Transfinite Interpolations and Eulerian/Lagrangian Dynamics is a self-contained graduate-level text that integrates theory, applications, numerical approximations, and computational techniques. It applies transfinite interpolation methods to finite element mesh adaptation and ALE fluid-structure interaction. Specialists in applied mathematics, physics, mechanics, computational sciences, imaging sciences, and engineering will find this book of interest.

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## SCIENTIFIC AND TECHNICAL AEROSPACE REPORTS

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Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database.

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## PASSIVE NETWORK SYNTHESIS: AN APPROACH TO CLASSIFICATION

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SIAM A resurgence of interest in network synthesis in the last decade, motivated in part by the introduction of the inerter, has led to the need for a better understanding of the most economical way to realize a given passive impedance. This monograph outlines the main contributions to the field of passive network synthesis and presents new research into the enumerative approach and the classification of networks of restricted complexity. Passive Network Synthesis: An Approach to Classification serves as both an ideal introduction to the topic and a definitive treatment of the Ladenheim catalogue. In particular, the authors provide a new analysis and classification of the Ladenheim catalogue, building on recent work, to obtain an improved understanding of the structure and realization power of the class within the biquadratic positive-real functions. This book is intended for researchers in systems and control, real algebraic geometry, electrical and mechanical networks, and dynamics and vibration.

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## COMPUTATIONAL METHODS FOR THE OPTIMIZATION OF SAMPLED-DATA DISTRIBUTED-PARAMETER SYSTEMS BY USE OF DYNAMIC PROGRAMING

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## RECENT AWARDS IN ENGINEERING

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## MODEL ENGINEERING FOR SIMULATION

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Academic Press Model Engineering for Simulation provides a systematic introduction to the implementation of generic, normalized and quantifiable modeling and simulation using DEVS formalism. It describes key technologies relating to model lifecycle management, including model description languages, complexity analysis, model management, service-oriented model composition, quantitative measurement of model credibility, and model validation and verification. The book clearly demonstrates how to construct computationally efficient, object-oriented simulations of DEVS models on parallel and distributed environments. Guides systems and control engineers in the practical creation and delivery of simulation models using DEVS formalism Provides practical methods to improve credibility of models and manage the model lifecycle Helps readers gain an overall understanding of model lifecycle management and analysis Supported by an online ancillary package that includes an instructors and student solutions manual

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## CONTROL ENGINEERING AND INFORMATION SYSTEMS

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### PROCEEDINGS OF THE 2014 INTERNATIONAL CONFERENCE ON CONTROL ENGINEERING AND INFORMATION SYSTEMS (ICCEIS 2014, YUEYANG, HUNAN, CHINA, 20-22 JUNE 2014).

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CRC Press Control Engineering and Information Systems contains the papers presented at the 2014 International Conference on Control Engineering and Information Systems (ICCEIS 2014, Yueyang, Hunan, China, 20-22 June 2014). All major aspects of the theory and applications of control engineering and information systems are addressed, including: - Intelligent systems - Teaching cases - Pattern recognition - Industry application - Machine learning - Systems science and systems engineering - Data mining - Optimization - Business process management - Evolution of public sector ICT - IS economics - IS security and privacy - Personal data markets - Wireless ad hoc and sensor networks - Database and system security - Application of spatial information system - Other related areas Control Engineering and Information Systems provides a valuable source of information for scholars, researchers and academics in control engineering and information systems.

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## ADVANCED INDUSTRIAL CONTROL TECHNOLOGY

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William Andrew Control engineering seeks to understand physical systems, using mathematical modeling, in terms of inputs, outputs and various components with different behaviors. It has an essential role in a wide range of control systems, from household appliances to space flight. This book provides an in-depth view of the technologies that are implemented in most varieties of modern industrial control engineering. A solid grounding is provided in traditional control techniques, followed by detailed examination of modern control techniques such as real-time, distributed, robotic, embedded, computer and wireless control technologies. For each technology, the book discusses its full profile, from the field layer and the control layer to the operator layer. It also includes all the interfaces in industrial control systems: between controllers and systems; between different layers; and between operators and systems. It not only describes the details of both real-time operating systems and distributed operating systems, but also provides coverage of the microprocessor boot code, which other books lack. In addition to working principles and operation mechanisms, this book emphasizes the practical issues of components, devices and hardware circuits, giving the specification parameters, install procedures, calibration and configuration methodologies needed for engineers to put the theory into practice. Documents all the key technologies of a wide range of industrial control systems Emphasizes practical application and methods alongside theory and principles An ideal reference for practicing engineers needing to further their understanding of the latest industrial control concepts and techniques

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## INDUSTRIAL ENGINEERING: CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS

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### CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS

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IGI Global Industrial engineering affects all levels of society, with innovations in manufacturing and other forms of engineering oftentimes spawning cultural or educational shifts along with new technologies. Industrial Engineering: Concepts, Methodologies, Tools, and Applications serves as a vital compendium of research, detailing the latest research, theories, and case studies on industrial engineering. Bringing together contributions from authors around the world, this three-volume collection represents the most sophisticated research and developments from the field of industrial engineering and will prove a valuable resource for researchers, academics, and practitioners alike.

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## NEW TRENDS IN OBSERVER-BASED CONTROL

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### A PRACTICAL GUIDE TO PROCESS AND ENGINEERING APPLICATIONS

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Academic Press New Trends in Observer-Based Control: A Practical Guide to Process and Engineering Applications presents a concise introduction to the latest advances in observer-based control design. The book gives a comprehensive tutorial on new trends in the design of observer-based controllers for which the separation principle is well established. It covers a wide range of applications, also including worked examples that make it ideal for both advanced courses and researchers starting work in the field. This book is also particularly suitable for engineers who want to quickly and efficiently enter the field. Presents a clear-and-concise introduction to the latest advances in observer-based control design Offers content on many facets of observer-based control design Discusses key applications in the fields of power systems, robotics and mechatronics, flight and automotive systems

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## PRACTICAL DISTRIBUTED CONTROL SYSTEMS (DCS) FOR ENGINEERS & TECHNICIANS

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## INTEGRATING RESEARCH AND PRACTICE IN SOFTWARE ENGINEERING

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Springer In this book, the authors highlight recent findings that hold the potential to improve software products or development processes; in addition, they help readers understand new concepts and technologies, and to see what it takes to migrate from old to new platforms. Some of the authors have spent most of their careers in industry, working at the frontiers of practice-based innovation, and are at the same time prominent researchers who have made significant academic contributions. Others work together with industry to test, in industrial settings, the methods they've developed in the lab. The choice of subject and authors represent the key elements of this book. Its respective chapters cover a wide range of topics, from cloud computing to agile development, applications of data

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science methods, re-engineering of aging applications into modern ones, and business and requirements engineering. Taken together, they offer a valuable asset for practitioners and researchers alike.

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## **DATABASES AND INFORMATION SYSTEMS X**

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### **SELECTED PAPERS FROM THE THIRTEENTH INTERNATIONAL BALTIC CONFERENCE, DB&IS 2018**

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IOS Press The importance of databases and information systems to the functioning of 21st century life is indisputable. This book presents papers from the 13th International Baltic Conference on Databases and Information Systems, held in Trakai, Lithuania, from 1- 4 July 2018. Since the first of these events in 1994, the Baltic DB&IS has proved itself to be an excellent forum for researchers, practitioners and PhD students to deliver and share their research in the field of advanced information systems, databases and related areas. For the 2018 conference, 69 submissions were received from 15 countries. Each paper was assigned for review to at least three referees from different countries. Following review, 24 regular papers were accepted for presentation at the conference, and from these presented papers the 14 best-revised papers have been selected for publication in this volume, together with a preface and three invited papers written by leading experts. The selected revised and extended papers present original research results in a number of subject areas: information systems, requirements and ontology engineering; advanced database systems; internet of things; big data analysis; cognitive computing; and applications and case studies. These results will contribute to the further development of this fast-growing field, and will be of interest to all those working with advanced information systems, databases and related areas.

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## **RELIABLE DISTRIBUTED SYSTEMS**

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### **TECHNOLOGIES, WEB SERVICES, AND APPLICATIONS**

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Springer Science & Business Media Explains fault tolerance in clear terms, with concrete examples drawn from real-world settings Highly practical focus aimed at building "mission-critical" networked applications that remain secure

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## **PRACTICAL RELIABILITY ENGINEERING**

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John Wiley & Sons With emphasis on practical aspects of engineering, this bestseller has gained worldwide recognition through progressive editions as the essential reliability textbook. This fifth edition retains the unique balanced mixture of reliability theory and applications, thoroughly updated with the latest industry best practices. Practical Reliability Engineering fulfils the requirements of the Certified Reliability Engineer curriculum of the American Society for Quality (ASQ). Each chapter is supported by practice questions, and a solutions manual is available to course tutors via the companion website. Enhanced coverage of mathematics of reliability, physics of failure, graphical and software methods of failure data analysis, reliability prediction and modelling, design for reliability and safety as well as management and economics of reliability programmes ensures continued relevance to all quality assurance and reliability courses. Notable additions include: New chapters on applications of Monte Carlo simulation methods and reliability demonstration methods. Software applications of statistical methods, including probability plotting and a wider use of common software tools. More detailed descriptions of reliability prediction methods. Comprehensive treatment of accelerated test data analysis and warranty data analysis. Revised and expanded end-of-chapter tutorial sections to advance students' practical knowledge. The fifth edition will appeal to a wide range of readers from college students to seasoned engineering professionals involved in the design, development, manufacture and maintenance of reliable engineering products and systems. [www.wiley.com/go/oconnor\\_reliability5](http://www.wiley.com/go/oconnor_reliability5)

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## **HANDBOOK OF RESEARCH ON COMPUTATIONAL SCIENCE AND ENGINEERING: THEORY AND PRACTICE**

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### **THEORY AND PRACTICE**

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IGI Global By using computer simulations in research and development, computational science and engineering (CSE) allows empirical inquiry where traditional experimentation and methods of inquiry are difficult, inefficient, or prohibitively expensive. The Handbook of Research on Computational Science and Engineering: Theory and Practice is a reference for interested researchers and decision-makers who want a timely introduction to the possibilities in CSE to advance their ongoing research and applications or to discover new resources and cutting edge developments. Rather than reporting results obtained using CSE models, this comprehensive survey captures the architecture of the cross-disciplinary field, explores the long term implications of technology choices, alerts readers to the hurdles facing CSE, and identifies trends in future development.