Business Resilience System BRS Driven Through Boolean Fuzzy Logics And Cloud Computation Real And Near Real Time Analysis And Decision Making System

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Business Resilience System (BRS): Driven Through Boolean, Fuzzy Logics and Cloud Computation - Bahman Zohuri 2018-08-07
This book provides a technical approach to a Business Resilience System with its Risk Atom and Processing Data Point based on fuzzy logic and cloud computation in real time. Its purpose and objectives define a clear set of expectations for Organizations and Enterprises so their network system and supply chain are totally resilient and protected against cyber-attacks, manmade threats, and natural disasters. These enterprises include financial, organizational, homeland security, and supply chain operations with multi-point manufacturing across the world. Market shares and marketing advantages are expected to result from the implementation of the system. The collected information and defined objectives form the basis to monitor and analyze the data through cloud computation, and will guarantee the success of their survivability's against any unexpected threats. This book will be useful for advanced undergraduate and graduate students in the field of computer engineering, engineers that work for manufacturing companies, business analysts in retail and e-Commerce, and those working in the defense industry, Information Security, and Information Technology.

Compact Heat Exchangers - Bahman Zohuri 2016-05-02
This book describes the fundamentals and applications of compact heat exchangers in energy generation. The text focuses on their efficiency impacts on power systems, particularly emphasizing alternative energy sources such as Concentrated Solar Power and nuclear plants. The various types of compact heat exchanger surfaces and designs are given thorough consideration before the author turns his attention to describing how these compact heat exchangers can be applied to innovative plant designs, and how to conduct operational and safety analyses to optimize thermal efficiency. The book is written at an undergraduate level, but will be useful to practicing engineers and scientists as well.

Singularity Hypotheses - Amnon H. Eden 2013-04-03
Singularity Hypotheses: A Scientific and Philosophical Assessment offers authoritative, jargon-free essays and critical commentaries on accelerating technological progress and the notion of technological singularity. It focuses on conjectures about the intelligence explosion, transhumanism, and whole brain emulation. Recent years have seen a plethora of forecasts about the profound, disruptive impact that is likely to result from further progress in these areas. Many commentators however doubt the scientific rigor of these forecasts, rejecting them as speculative and unfounded. We therefore invited prominent computer scientists, physicists, philosophers, biologists, economists and other thinkers to assess the singularity hypotheses. Their contributions go beyond speculation, providing deep insights into the main issues and a balanced picture of the debate.

Computer Security -- ESORICS 2019 - Kazue Sako (Innovation Producer) 2019
The two volume set, LNCS 11735 and 11736, constitutes the proceedings of the 24th European Symposium on Research in Computer Security, ESORIC 2019, held in Luxembourg, in September 2019. The total of 67 full papers included in these proceedings was carefully reviewed and selected from 344 submissions. The papers were organized in topical sections named as follows: Part I: machine learning; information leakage; signatures and re-encryption; side channels; formal modelling and verification; attacks; secure protocols; useful tools; blockchain and smart contracts. Part II: software security; cryptographic protocols; security models; searchable encryption; privacy; key exchange protocols; and web security. --

Resilient Ministry - Bob Burns 2012-11-30
Why does one well-equipped, well-meaning person in ministry succeed while another fails? Bob Burns, Tasha Chapman and Donald Guthrie undertook a five-year intensive research project on the frontlines of pastoral ministry to answer that question. What they found was nothing less than the DNA of thriving ministry today.

How to Think Like an Officer - Reed Bonadonna 2020-09-01
The U.S. military invests heavily in time and resources to train its officers to be leaders in the broadest sense – forming them not only in military art and science (strategy, tactics, command, etc.), but also in humanistic knowledge, character, and values, as well as how to apply this education on a lightning-fast battlefield or within an inertially slow bureaucracy. The military develops its leaders, at the service academies and in ROTC programs, through very specific but also broad and deep education – a way of thinking that also has wide application in the civilian world, not only in various professional fields that need leaders and thinkers, but also among military history enthusiasts who want to understand how officers have thought across time and among American citizens who want – and, really, need – to understand how our military leaders think, how they advise presidents, how they lead on the battlefield. In a genre-busting book that spans Stackpole's two longstanding military programs – reference and history – Reed Bonadonna describes how officers think, how they ought to think, how they develop their skills, and how they can improve these skills, as well as how average civilians and citizens can learn from the example of military officers and their program of education. Bonadonna draws from military history, from military arts and science, from literature and science and more, to show how officers develop their critical-thinking and problem-solving skills. A military officer is often called upon to be not only fighter and leader, but also negotiator, organizer, planner and preparer, teacher, writer, scientist, and advisor, and needs broad learning. This is a deeply learned and insightful book, one that cites Lincoln, Grant, Patton, Eisenhower, Marshall, and Churchill as easily as Sun Tzu and Clausewitz, not to mention Homer, Plato, Joseph Conrad, Henry James, Wilfred Owen, Robert Graves, George Orwell, Ludwig Wittgenstein, Joseph Heller, Phil Klay, and even Jane Austen. The book is descriptive as well as prescriptive and should find eager readers inside the military (where officers take seriously their professional education and their professional reading lists) as well as outside, where many look to the military, to military reading lists, and to military history, to glean lessons for life and work.

Networked Control Systems - Fei-Yue Wang 2008-06-17
Networked control systems (NCS) confer advantages of cost reduction, system diagnosis and flexibility, minimizing wiring and simplifying the addition and replacement of individual elements; efficient data

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sharing makes taking globally intelligent control decisions easier with NCS. The applications of NCS range from the large scale of factory automation and plant monitoring to the smaller networks of computers in modern cars, places and autonomous robots. Networked Control Systems presents recent results in stability and robustness analysis and new developments related to networked fuzzy and optimal control. Many chapters contain case-studies, experimental, simulation or other application-related work showing how the theories put forward can be implemented. The state-of-the art research reported in this volume by an international team of contributors makes it an essential reference for researchers and postgraduate students in control, electrical, computer and mechanical engineering and computer science.

The IMS - Miikka Poikselkä 2013-05-29
The 3rd edition of this highly successful text builds onthe achievement of the first two editions to provide comprehensivecoverage of IMS. It continues to explore the concepts,architecture, protocols and functionalities of IMS while providinga wealth of new and updated information. It is written in a mannerthat allows readers to choose the level of knowledge andunderstanding they need to gain about the IMS. With 35% new material, The IMS,IP Multimedia Concepts andServices, 3rd Edition has been completely revised toinclude updated chapters as well as totally new chapters on IMSmultimedia telephony and IMS voice call continuity. Additional newmaterial includes IMS transit, IMS local numbering, emergencysessions, identification of communication services in IMS, newauthentication model for fixed access, NAT traversal and globallyroutable user agents URI. Detailed descriptions of protocolbehaviour are provided on a level that can be used forimplementation and testing. Key features of the 3rd edition: Two new chapters on IMS multimedia telephony service and IMSVoice Call Continuity Updated information on Third Generation Partnership Project(3GPP) Release 7 level, including architecture, reference pointsand concepts Substantially extended coverage on IMS detailed procedures Completely rewritten and extended chapters on IMSservices

Toxicity of Pesticides on Health and Environment - Robin Mesnage 2018-12-07
Public policy is regularly shaken by health crises or unexpected discoveries; future directions in toxicology assessment are therefore urgently needed. Convergent evidences suggest endocrine or nervous disrupting effects of pesticides, as well as effects on wildlife and the environment. These effects are amplified by the use of surfactants and/or combinations of different active principles. The usual concepts of regulatory toxicology are challenged by endocrine, nervous or immune disruption, or epigenetic effects. Indeed, most pollutants alter cell-cell communication systems to promote chronic diseases. They may accumulate in the food chain. Mixtures effects with other pollutants may change their bioavailability and their toxicity. The lack of scientific knowledge in these matters has large costs for public health. This Research Topic focuses on the toxic effects of pesticides associated with large scale cultivation of genetically modified (GM) plants.

Neural Network Driven Artificial Intelligence - Bahman Zohuri 2017
With today's growing and overloading volume of information, it is becoming tremendously difficult to analyse the huge amounts of data that contain this information. It makes it very strenuous and inconvenient to introduce an appropriate methodology of decision-making fast enough to the point that it can be considered as real-time. The demand for real-time processing information and related data -- both structured and unstructured -- is on the rise and consequently makes it harder and harder to implement correct decision making at the enterprise level to keep the organisation robust and resilient against either manmade threats or natural disasters. Neural networking and fuzzy systems combined show how an artificial intelligence (AI) can be driven, by these combinations as a trainable system that is more dynamic than static when it comes to machine and deep learning language to deal with both adversary and friendly events in real-time. Dynamic systems of AI that are built around such an innovative approach allows the robots of the future to be more adaptive with mechanisms such as principle adoption, self-organisation, and the convergence of global stability from the viewpoint of business and intelligence security needed in today's cyber world. To deal with uncertainty, vagueness, and imprecision, Lofti A Zadeh introduced fuzzy sets and fuzzy logic. In the present book, fuzzy classification is applied to extend portfolio analysis, scoring methods, customer segmentation and performance measurement, and thus improves managerial decisions. As an integral part of the book, case studies show how fuzzy classification -- with its query facilities -- can extend customer equity, enable mass customisation, and refine marketing campaigns. This book shows

interoperability between the two sciences/techniques show how: 1) To utilise fuzzy theory of the first and second kind to an adaptive control; and 2) how to invent a structured fuzzy system and robots of future, with unsupervised neural network techniques to face an unstructured world of big data and unpredictable global events all in real-time. An important aspect of this approach is to examine biological neural systems and study how artificial neural networks are, how they are based on them, and how they are driven by them as well. Key areas discussed include: 1) Structural diversity; 2) temporal lobe; 3) origins of artificial neural systems; 4) brain structure and function; 5) biological nerve cells; 6) synapses; 7) random and fixed positions in the brain's neural networks; and 8) how biological systems really compare to computational neural networks. The book is designed to be appropriate for courses in engineering, computer science, mathematics, psychology and biology.

Electrical Brain Stimulation for the Treatment of Neurological Disorders - BAHMAN. ZOHURI 2021-03-31
In this book, Electrical Brain Stimulation for the Treatment of Neurological Disorders, the authors present their embodiment for a closed loop, feedback controlled, non-invasive application of electrical stimulation of the brain to enhance individual/group performance or to treat neurological disorders. Using a combination of modeling and experimental work, the authors have developed a unique approach to the field in combination with new technology from the perspectives of electro-magnetic and electrical engineering, computation of image processing, machine learning and neural networking, and in conjunction with the medicine of neurology and understanding of neuron behavior. They claim that non-invasive brain stimulation (NIBS) will provide new treatment methods with much greater simplicity, lower cost, improved safety, and in some cases, possibly greater effectiveness than well-established pharmacological methods or more recent invasive electrical deep brain stimulation (DBS) techniques. The authors explain their techniques and the results of their experimental studies and assert that the application of tailored and individualized control of their approach can be combined with other therapy methods to treat neurological disorders while minimizing or even eliminating the use of pharmaceuticals.

Fundamentals of Computational Intelligence - James M. Keller 2016-07-13
Provides an in-depth and even treatment of the three pillars of computational intelligence and how they relate to one another This book covers the three fundamental topics that form the basis of computational intelligence: neural networks, fuzzy systems, and evolutionary computation. The text focuses on inspiration, design, theory, and practical aspects of implementing procedures to solve real-world problems. While other books in the three fields that comprise computational intelligence are written by specialists in one discipline, this book is co-written by current former Editor-in-Chief of IEEE Transactions on Neural Networks and Learning Systems, a former Editor-in-Chief of IEEE Transactions on Fuzzy Systems, and the founding Editor-in-Chief of IEEE Transactions on Evolutionary Computation. The coverage across the three topics is both uniform and consistent in style and notation. Discusses single-layer and multilayer neural networks, radial-basis function networks, and recurrent neural networks Covers fuzzy set theory, fuzzy relations, fuzzy logic interference, fuzzy clustering and classification, fuzzy measures and fuzzy integrals Examines evolutionary optimization, evolutionary learning and problem solving, and collective intelligence Includes end-of-chapter practice problems that will help readers apply methods and techniques to real-world problems Fundamentals of Computational intelligence is written for advanced undergraduates, graduate students, and practitioners in electrical and computer engineering, computer science, and other engineering disciplines.

Human Resource Management in Construction Projects - Martin Loosemore 2003-12-08
Although construction is one of the most labour-intensive industries, people management issues are given inadequate attention. Furthermore, the focus of attention with regards to HR has been on the strategic aspects of HRM function - yet most problems and operational issues arise on projects. To help redress these problems, this book takes a broad view of HRM, examining the strategic and operational aspects of managing people within the construction sector. The book is aimed at project managers and students of project management who, until now, have been handed the responsibility for human resource management without adequate knowledge or training. The issues addressed in this book are internationally relevant, and are of fundamental concern to both students and practitioners involved in the management of construction projects. The text draws on the authors' experience of working with a range of large construction

companies in improving their HRM operational activities at both strategic and operational levels, and is well illustrated with case studies of projects and organizations.

Principles of Geographic Information Systems - Rolf A. de By 2004

Dimensional Analysis and Self-Similarity Methods for Engineers and Scientists - Bahman Zohuri 2015-04-15
This ground-breaking reference provides an overview of key concepts in dimensional analysis, and then pushes well beyond traditional applications in fluid mechanics to demonstrate how powerful this tool can be in solving complex problems across many diverse fields. Of particular interest is the book's coverage of dimensional analysis and self-similarity methods in nuclear and energy engineering. Numerous practical examples of dimensional problems are presented throughout, allowing readers to link the book's theoretical explanations and step-by-step mathematical solutions to practical implementations.

Heart Rate Variability, Health and Well-being: A Systems Perspective - Robert Drury 2020-01-09
The development of a new tool, analytic device, or approach frequently facilitates rapid growth in scientific understanding, although the process is seldom linear. The study of heart rate variability (HRV) defined as the extent to which beat-to-beat variation in heart rate varies, is a rapidly maturing paradigm that integrates health and wellness observations across a wide variety of biomedical and psychosocial phenomena and illustrates this nonlinear path of development. The utility of HRV as an analytic and interventive technique goes far beyond its original application as a robust predictor of sudden cardiac death. This Research Topic aims to provide a conceptual framework to use in exploring the utility of HRV as a robust parameter of health status, using a broad and inclusive definition of 'health' and 'well-being'. From the broadest perspective, current biomedical science emerged from shamanistic and religious healing practices and empirically observed interventions made as humans emerged from other hominins. The exponential growth of physics, chemistry and biology provided scientific support for the model emphasizing pathology and disorders. Even before the momentous discovery of germ theory, sanitation and other preventive strategies brought about great declines in mortality and morbidity. The revolution that is currently expanding the biomedical model is an integrative approach that includes the wide variety of non-physio/chemical factors that contribute to health. In the integrative approach, health is understood to be more than the absence of disease and emphasis is placed on optimal overall functioning, within the ecological niche occupied by the organism. This approach also includes not just interventive techniques and procedures, but also those social and cultural structures that provide access to safe and effective caring for sufferers. Beyond the typical drug and surgical interventions - which many identify with the Western biomedical model that currently enjoys an unstable hegemony - such factors also include cognitive-behavioral, social and cultural practices such as have been shown to be major contributors to the prevention and treatment of disease and the promotion of health and optimal functioning. This Integrative Model of Health and Well-being also derives additional conceptual power by recognizing the role played by evolutionary processes in which conserved, adaptive human traits and response tendencies are not congruent with current industrial and postindustrial global environmental demands and characteristics. This mismatch contributes to an increasing incidence of chronic conditions related to lifestyle and health behavior. Such a comprehensive model will make possible a truly personalized approach to health and well-being, including and going far beyond the current emphasis on genomic analysis, which has promised more that it has currently delivered. HRV offers an inexpensive and easily obtained measure of neurovisceral functioning which has been found to relate to the occurrence and severity of numerous physical disease states, as well as many cognitive-behavioral health disorders. This use of the term neurovisceral refers to the relationships between the nervous system and the viscera, providing a more focused and specific conceptual alternative to the now nearly archaic "mind-body" distinction. This awareness has led to the recent and growing use of HRV as a health biomarker or health status measure of neurovisceral functioning. It facilitates studying the complex two way interaction between the central nervous system and other key systems such as the cardiac, gastroenterological, pulmonary and immune systems. The utility of HRV as a broad spectrum health indicator with possible application both clinically and to population health has only begun to be explored. Interventions based on HRV have been demonstrated to be effective evidence-based interventions, with HRV biofeedback treatment for PTSD representing an empirically supported modality for this complex and highly visible affliction. As an integral measure of stress, HRV can be used to objectively assess the functioning of the central, enteric and cardiac nervous systems, all of which are largely mediated by the vagal nervous complex. HRV has also been found to be a measure of central neurobiological concepts such as executive functioning and cognitive load. The relatively simple and inexpensive acquisition of HRV data and its ease of network transmission and analysis make possible a promising digital epidemiology which can facilitate objective population health studies, as well as web based clinical applications. An intriguing example is the use of HRV data obtained at motor vehicle crash sites in decision support regarding life flight evacuations to improve triage to critical care facilities. This Research Topic critically addresses the issues of appropriate scientific and analytic methods to capture the concept of the Integrative Health and Well-being Model. The true nature of this approach can be appreciated only by using both traditional linear quantitative statistics and nonlinear systems dynamics metrics, which tend to be qualitative. The Research Topic also provides support for further development of new and robust methods for evaluating the safety and effectiveness of interventions and practices, going beyond the sometimes tepid and misleading "gold standard" randomized controlled clinical trial.

The Book of Roast - 2017-04-17
Craft of coffee roasting - from green beans to business

ECG Signal Processing, Classification and Interpretation - Adam Gacek 2011-09-18
The book shows how the various paradigms of computational intelligence, employed either singly or in combination, can produce an effective structure for obtaining often vital information from ECG signals. The text is self-contained, addressing concepts, methodology, algorithms, and case studies and applications, providing the reader with the necessary background augmented with step-by-step explanation of the more advanced concepts. It is structured in three parts: Part I covers the fundamental ideas of computational intelligence together with the relevant principles of data acquisition, morphology and use in diagnosis; Part II deals with techniques and models of computational intelligence that are suitable for signal processing; and Part III details ECG system-diagnostic interpretation and knowledge acquisition architectures. Illustrative material includes: brief numerical experiments; detailed schemes, exercises and more advanced problems.

Directed-Energy Beam Weapons - Bahman Zohuri 2020-08-15
This book introduces modern directed-energy beam weaponry and emerging technical concepts based on unclassified and declassified information. The book covers laser systems, analyzing the interaction between high-power laser beams and matter, and examines penetration of high power beams such as microwave and scalar wave. It also covers the use of particle and high-power radar beams and scalar wave as weapons of the future. In-depth coverage of the relevant mathematical and engineering topics and concepts are included. The book will provide scientists and engineers with valuable guidance on the fundamentals needed to understand state-of-the-art directed energy weaponry technology research and applications. Provides guidance on the fundamentals of state-of-the-art directed-energy weaponry technology; Introduces the physics behind directed-energy weapons; Offers in-depth coverage of mathematical and engineering topics.

Advances in Safety Management and Human Performance - Pedro M. Arezes 2020-06-30
This book brings together studies broadly addressing human error and safety management from the perspectives of various disciplines, and shares the latest findings on ensuring employees' safety, health, and welfare at work. It combines a diverse range of disciplines – e.g. work physiology, health informatics, safety engineering, workplace design, injury prevention, and occupational psychology – and presents new strategies for safety management, including accident prevention methods such as performance testing and participatory ergonomics. It reports on cutting-edge methods and findings concerning safety-critical systems, defense, and security, and discusses advanced topics regarding human performance, human variability, and reliability analysis; medical, driver and pilot error, as well as automation error; and cognitive modeling of human error. Further, it highlights cutting-edge applications in safety management, defense, security, transportation, process controls, and medicine. Gathering the proceedings of the AHFE 2020 International Conference on Safety Management and Human Factors and the AHFE 2020 Virtual Conference on Human Error, Reliability, Resilience, and Performance, held on July 16–20, 2020, USA, the

book offers an extensive, timely, and multidisciplinary guide for researchers and practitioners dealing with safety management and human error.

Seven Lessons for Leading in Crisis - Bill George 2009-08-24
One of the country's most trusted leaders offers time-tested and real world advice for leading in economic hard times From business giant Bill George, the acclaimed author of Wall Street Journal's bestseller True North, comes the just-in-time guide for anyone in a leadership position facing today's unprecedented economic challenges. The former CEO of Medtronic draws from his own in-the-trenches experience and lessons from leaders (representing an array of companies) who have weathered tough economic storms. With straight talk and clear directions, George shows leaders specifically what they must do to become strong leaders and survive any crisis. His seven lessons include: Face Reality, Starting with Yourself; Never Waste a Good Crisis; and Be Aggressive: This is Your Best Chance to Win in the Market. Seven Lesson for Leading in Crisis is a survival kit for anyone in a leadership position. A concise handbook for applying proven leadership lessons in tough times Written by Bill George one of America's most trusted business leaders and author of True North and Authentic Leadership Offers realistic actions leaders can take to put their companies on the right long-term path Seven Lesson for Leading in Crisis gives leaders a solid strategy for staying the course.

Machine Learning Approaches for Improvising Modern Learning Systems - Gulzar, Zameer 2021-05-14
Technology is currently playing a vital role in revolutionizing education systems and progressing academia into the digital age. Technological methods including data mining and machine learning are assisting with the discovery of new techniques for improving learning environments in regions across the world. As the educational landscape continues to rapidly transform, researchers and administrators need to stay up to date on the latest advancements in order to elevate the quality of teaching in their specific institutions. Machine Learning Approaches for Improvising Modern Learning Systems provides emerging research exploring the theoretical and practical aspects of technological enhancements in educational environments and the popularization of contemporary learning methods in developing countries. Featuring coverage on a broad range of topics such as game-based learning, intelligent tutoring systems, and course modelling, this book is ideally designed for researchers, scholars, administrators, policymakers, students, practitioners, and educators seeking current research on the digital transformation of educational institutions.

Power Laws in the Information Production Process - Leo Egghe 2005-01-20
Explains numerous informetric regularities based on a decreasing power law as size-frequency function, i.e. Lotka's law. It revives the historical formulation of Alfred Lotka of 1926 and shows the power of this power law, both in classical aspects of informetrics (libraries, bibliographies) and in 'new' applications such as social networks.

Directed Energy Weapons - Bahman Zohuri 2016-08-29
This book delves deeply into the real-world technologies behind the 'directed energy weapons' that many believe exist only within the confines of science fiction. On the contrary, directed energy weapons such as high energy lasers are very real, and this book provides a crash course in all the physical and mathematical concepts that make these weapons a reality. Written to serve both scientists researching the physical phenomena of laser effects, as well as engineers focusing on practical applications, the author provides worked examples demonstrating issues such as how to solve for heat diffusion equation for different boundary and initial conditions. Several sections are devoted to reviewing and dealing with solutions of diffusion equations utilizing the aid of the integral transform techniques. Ultimately this book examines the state-of-the-art in currently available high energy laser technologies, and suggests future directions for accelerating practical applications in the field."br>/div

Business Resilience System (BRS): Driven Through Boolean, Fuzzy Logics and Cloud Computation - Bahman Zohuri 2017-02-28
This book provides a technical approach to a Business Resilience System with its Risk Atom and Processing Data Point based on fuzzy logic and cloud computation in real time. Its purpose and objectives define a clear set of expectations for Organizations and Enterprises so their network system and supply chain are totally resilient and protected against cyber-attacks, manmade threats, and natural disasters. These enterprises include financial, organizational, homeland security, and supply chain operations with multi-

point manufacturing across the world. Market shares and marketing advantages are expected to result from the implementation of the system. The collected information and defined objectives form the basis to monitor and analyze the data through cloud computation, and will guarantee the success of their survivability's against any unexpected threats. This book will be useful for advanced undergraduate and graduate students in the field of computer engineering, engineers that work for manufacturing companies, business analysts in retail and e-Commerce, and those working in the defense industry, Information Security, and Information Technology.

Critical Infrastructure Security and Resilience - Dimitris Gritzalis 2019-01-01
This book presents the latest trends in attacks and protection methods of Critical Infrastructures. It describes original research models and applied solutions for protecting major emerging threats in Critical Infrastructures and their underlying networks. It presents a number of emerging endeavors, from newly adopted technical expertise in industrial security to efficient modeling and implementation of attacks and relevant security measures in industrial control systems; including advancements in hardware and services security, interdependency networks, risk analysis, and control systems security along with their underlying protocols. Novel attacks against Critical Infrastructures (CI) demand novel security solutions. Simply adding more of what is done already (e.g. more thorough risk assessments, more expensive Intrusion Prevention/Detection Systems, more efficient firewalls, etc.) is simply not enough against threats and attacks that seem to have evolved beyond modern analyses and protection methods. The knowledge presented here will help Critical Infrastructure authorities, security officers, Industrial Control Systems (ICS) personnel and relevant researchers to (i) get acquainted with advancements in the field, (ii) integrate security research into their industrial or research work, (iii) evolve current practices in modeling and analyzing Critical Infrastructures, and (iv) moderate potential crises and emergencies influencing or emerging from Critical Infrastructures.

Thermodynamics In Nuclear Power Plant Systems - Bahman Zohuri 2015-04-20
This book covers the fundamentals of thermodynamics required to understand electrical power generation systems, honing in on the application of these principles to nuclear reactor power systems. It includes all the necessary information regarding the fundamental laws to gain a complete understanding and apply them specifically to the challenges of operating nuclear plants. Beginning with definitions of thermodynamic variables such as temperature, pressure and specific volume, the book then explains the laws in detail, focusing on pivotal concepts such as enthalpy and entropy, irreversibility, availability, and Maxwell relations. Specific applications of the fundamentals to Brayton and Rankine cycles for power generation are considered in-depth, in support of the book's core goal- providing an examination of how the thermodynamic principles are applied to the design, operation and safety analysis of current and projected reactor systems. Detailed appendices cover metric and English system units and conversions, detailed steam and gas tables, heat transfer properties, and nuclear reactor system descriptions.

The Tao of Microservices - Richard Rodger 2017-12-11
Summary The Tao of Microservices guides you on the path to understanding how to apply microservice architectures to your own real-world projects. This high-level book offers a conceptual view of microservice design, along with core concepts and their application. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology An application, even a complex one, can be designed as a system of independent components, each of which handles a single responsibility. Individual microservices are easy for small teams without extensive knowledge of the entire system design to build and maintain. Microservice applications rely on modern patterns like asynchronous, message-based communication, and they can be optimized to work well in cloud and container-centric environments. About the Book The Tao of Microservices guides you on the path to understanding and building microservices. Based on the invaluable experience of microservices guru Richard Rodger, this book exposes the thinking behind microservice designs. You'll master individual concepts like asynchronous messaging, service APIs, and encapsulation as you learn to apply microservices architecture to real-world projects. Along the way, you'll dig deep into detailed case studies with source code and documentation and explore best practices for team development, planning for change, and tool choice. What's Inside Principles of the microservice architecture Breaking down real-world case studies Implementing large-scale systems

When not to use microservices About the Reader This book is for developers and architects. Examples use JavaScript and Node.js. About the Author Richard Rodger, CEO of voxgig, a social network for the events industry, has many years of experience building microservice-based systems for major global companies. Table of Contents PART 1 - BUILDING MICROSERVICES Brave new world Services Messages Data Deployment PART 2 - RUNNING MICROSERVICES Measurement Migration People Case study: Nodezoo.com

Emerging Technology in Modelling and Graphics - Jyotsna Kumar Mandal 2019-07-16
The book covers cutting-edge and advanced research in modelling and graphics. Gathering high-quality papers presented at the First International Conference on Emerging Technology in Modelling and Graphics, held from 6 to 8 September 2018 in Kolkata, India, it addresses topics including: image processing and analysis, image segmentation, digital geometry for computer imaging, image and security, biometrics, video processing, medical imaging, and virtual and augmented reality.

Hydrogen Energy - Bahman Zohuri 2018-08-25
This book describes the challenges and solutions the energy sector faces by shifting towards a hydrogen based fuel economy. The most current and up-to-date efforts of countries and leaders in the automotive sector are reviewed as they strive to develop technology and find solutions to production, storage, and distribution challenges. Hydrogen fuel is a zero-emission fuel when burned with oxygen and is often used with electrochemical cells, or combustion in internal engines, to power vehicles and electric devices. This book offers unique solutions to integrating renewable sources of energy like wind or solar power into the production of hydrogen fuel, making it a cost effective, efficient and truly renewable alternative fuel.

Distributed and Cloud Computing - Kai Hwang 2013-12-18
Distributed and Cloud Computing: From Parallel Processing to the Internet of Things offers complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing. It is the first modern, up-to-date distributed systems textbook; it explains how to create high-performance, scalable, reliable systems, exposing the design principles, architecture, and innovative applications of parallel, distributed, and cloud computing systems. Topics covered by this book include: facilitating management, debugging, migration, and disaster recovery through virtualization; clustered systems for research or ecommerce applications; designing systems as web services; and social networking systems using peer-to-peer computing. The principles of cloud computing are discussed using examples from open-source and commercial applications, along with case studies from the leading distributed computing vendors such as Amazon, Microsoft, and Google. Each chapter includes exercises and further reading, with lecture slides and more available online. This book will be ideal for students taking a distributed systems or distributed computing class, as well as for professional system designers and engineers looking for a reference to the latest distributed technologies including cloud, P2P and grid computing. Complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing Includes case studies from the leading distributed computing vendors: Amazon, Microsoft, Google, and more Explains how to use virtualization to facilitate management, debugging, migration, and disaster recovery Designed for undergraduate or graduate students taking a distributed systems course—each chapter includes exercises and further reading, with lecture slides and more available online
A Textbook of Agronomy - B. Chandrasekaran 2010

Knowledge is Power in Four Dimensions: Models to Forecast Future Paradigm - Bahman Zohuri 2022-07-19
Knowledge is Power in Four Dimensions: Models to Forecast Future Paradigms, Forecasting Energy for Tomorrow's World with Mathematical Modeling and Python Programming Driven Artificial Intelligence delivers knowledge on key infrastructure topics in both AI technology and energy. Sections lay the groundwork for tomorrow's computing functionality, starting with how to build a Business Resilience System (BRS), data warehousing, data management, and fuzzy logic. Subsequent chapters dive into the impact of energy on economic development and the environment and mathematical modeling, including energy forecasting and engineering statistics. Energy examples are included for application and learning

opportunities. A final section deliver the most advanced content on artificial intelligence with the integration of machine learning and deep learning as a tool to forecast and make energy predictions. The reference covers many introductory programming tools, such as Python, Scikit, TensorFlow and Kera. Helps users gain fundamental knowledge in technology infrastructure, including AI, machine learning and fuzzy logic Compartmentalizes data knowledge into near-term and long-term forecasting models, with examples involving both renewable and non-renewable energy outcomes Advances climate resiliency and helps readers build a business resiliency system for assets

1001 Things to Do with Your Macintosh - Mark Sawusch 1984
Contains Applications for Home, Business & Educational Uses as Well as Games. Includes Programs, Printouts, Flowcharts, Diagrams & Illustrations

Transcranial Magnetic and Electrical Brain Stimulation for Neurological Disorders - Bahman Zohuri 2022-08-26
Transcranial Magnetic and Electrical Brain Stimulation for Neurological Disorders examines the non-invasive application of electrical stimulation of the brain to treat neurological disorders, and to enhance individual/group performance. This volume discusses emerging electro-technologies such as transcranial direct current/alternating current electric fields and pulsed magnetic fields to treat many of these common medical problems. Chapters begin by examining foundations of electromagnetic theory and wave equations that underly these technologies before discussing methods to treat disorders, the impact of technology and mental health and artificial intelligence. Discussing over 40 neurological diseases, this book presents coverage of techniques to treat stroke, epilepsy, Alzheimer's Disease, Parkinson's Disease, Huntington's Disease, depression, schizophrenia, and many other diseases of the nervous system. Compares techniques so users can select ideal methods for their experiment Provides a focused tutorial introduction to core diseases of the nervous system, including stroke, epilepsy, Alzheimer's, Parkinson's, head and spinal cord trauma, schizophrenia, and more Covers more than 40 diseases, from foundational science to the best treatment protocols Includes discussions of translational research, drug discovery, personalized medicine, ethics and neuroscience Provides walk-through boxes that guide students step-by-step through the experiment

Third International Congress on Information and Communication Technology - Simon Sherratt 2019
The book includes selected high-quality research papers presented at the Third International Congress on Information and Communication Technology held at Brunel University, London on February 27-28, 2018. It discusses emerging topics pertaining to information and communication technology (ICT) for managerial applications, e-governance, e-agriculture, e-education and computing technologies, the Internet of Things (IOT), and e-mining. Written by experts and researchers working on ICT, the book is suitable for new researchers involved in advanced studies.

A Model to Forecast Future Paradigms - Bahman Zohuri 2020
"In this volume, A Model to Forecast Future Paradigms, Volume 1: Introduction to Knowledge Is Power in Four Dimensions, the authors' two-fold objective is to lay out a methodology and approach that allows the reader to learn how to utilize existing technology in the form of computer software and hardware for forecasting and decision-making and to discuss factors that affect upcoming events that, in turn, shape future paradigms. The book provides an understanding of these factors that will help decision-makers be better prepared to face future challenges and will assist them coping with unexpected circumstances. This volume is divided into two parts. Part one discusses a "technological infrastructure" so that new readers can gain a greater understanding based on the knowledge of tomorrow's computing functionality. The second part goes on to discuss the key indicators in the areas of population, culture, economics, climate change, and the impacts of technology in commerce and socially-which all need to be considered when forecasting a future paradigm. The authors will follow this introductory volume with additional volumes that review and analyze other critical indicators in the areas of geopolitics, the nature of political power around the globe, and other applications of technology and energy. In the last volume (of four total volumes), the authors introduce a mathematical model that can use the data presented in the first three volumes and forecast future paradigms for a targeted environment. Of course, the authors state, outcomes

may not always be accurate, but going through the process outlined in these volumes will be highly useful for both managers and decision makers to help them better prepare for events that may unfold in the future. With the sheer volume of information available and the ever-greater ease of access, it is becoming increasingly difficult to introduce an appropriate methodology of decision-making that is fast enough to be effective. The demand for real-time information processing and related data-both structured and unstructured-is on the rise. This rise makes it challenging to implement correct decision-making within enterprises at a level that keeps organizations robust and resilient against natural and man-made disasters. These volumes will be valuable for both advanced students, faculty, industry professionals, etc., in many fields, including banking, home land security, e-commerce, defense, and business"--

Artificial Intelligence and Evolutionary Computations in Engineering Systems - Subhransu Sekhar Dash 2018-03-19
The book is a collection of high-quality peer-reviewed research papers presented in the International Conference on Artificial Intelligence and Evolutionary Computations in Engineering Systems (ICAIECES 2017). The book discusses wide variety of industrial, engineering and scientific applications of the emerging techniques. Researchers from academia and industry have presented their original work and ideas, information, techniques and applications in the field of communication, computing and power technologies.

Radar Energy Warfare and the Challenges of Stealth Technology - Bahman Zohuri 2020-03-18
This book provides a solid foundation for understanding radar energy warfare and stealth technology. The book covers the fundamentals of radar before moving on to more advanced topics, including electronic counter and electronic counter-counter measures, radar absorbing materials, radar cross section, and the science of stealth technology. A final section provides an introduction to Luneberg lens reflectors. The book will provide scientists, engineers, and students with valuable guidance on the fundamentals needed to understand state-of-the-art radar energy warfare and stealth technology research and applications.

Twelve Years a Slave - Solomon Northup 2021-01-01
"Having been born a freeman, and for more than thirty years enjoyed the blessings of liberty in a free State—and having at the end of that time been kidnapped and sold into Slavery, where I remained, until happily rescued in the month of January, 1853, after a bondage of twelve years—it has been suggested that an account of my life and fortunes would not be uninteresting to the public." -an excerpt