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Marine Design XIII collects the contributions to the 13th International Marine Design Conference (IMDC 2018, Espoo, Finland, 10-14 June 2018). The aim of this IMDC series of conferences is to promote all aspects of marine design as an engineering discipline. The focus is on key design challenges and opportunities in the area of current maritime technologies and markets, with special emphasis on:

- Challenges in merging ship design and marine applications of experience-based industrial design
- Digitalisation as technological enabler for stronger link between efficient design, operations and maintenance in future
- Emerging technologies and their impact on future designs
- Cruise ship and icebreaker designs including fleet compositions to meet new market demands

To reflect on the conference focus, Marine Design XIII covers the following research topic series:

- State of art ship design principles - education, design methodology, structural design, hydrodynamic design;
- Cutting edge ship designs and operations - ship concept design, risk and safety, arctic design, autonomous ships;
- Energy efficiency and propulsions - energy efficiency, hull form design, propulsion equipment design;
- Wider marine designs and practices - navy ships, offshore and wind farms and production.

Marine Design XIII contains 2 state-of-the-art reports on design methodologies and cruise ships design, and 4 keynote papers on new directions for vessel design practices and tools, digital maritime traffic, naval ship designs, and new tanker design for arctic. Marine Design XIII will be of interest to academics and professionals in maritime technologies and marine design.

This groundbreaking report looks at patenting and technology trends in innovation in assistive technology. It identifies the prominent technologies, top players and markets for patent protection across seven domains - mobility, cognition, communication, hearing, the built environment, self-care and vision. Using a scale of technology readiness, it reveals which of the identified assistive products filed for patent protection are closest to commercialization.

McKinsey Global Institute predicts Internet of Things (IoT) could generate up to \$11.1 trillion a year in economic value by 2025. Gartner Research Company expects 20 billion inter-connected devices by 2020 and, as per Gartner, the IoT will have a significant impact on the economy by transforming many enterprises into digital businesses and facilitating new business models, improving efficiency and increasing employee and customer engagement. It's clear from above and our research that the IoT is a game changer and will have huge positive impact in foreseeable future. In order to harvest the benefits of IoT revolution, the traditional software development paradigms must be fully upgraded. The mission of our book, is to prepare current and future software engineering teams with the skills and tools to fully utilize IoT capabilities. The book introduces essential IoT concepts from the perspectives of full-scale software development with the emphasis on creating niche blue ocean products. It also: Outlines a fundamental full stack architecture for IoT Describes various development technologies in each IoT layer Explains IoT solution development from Product management perspective Extensively covers security and applicable threat models as part of IoT stack The book provides details of several IoT reference architectures with emphasis on data integration, edge analytics, cluster architectures and closed loop responses.

In recent years, smart cities have been an emerging area of interest across the world. Due to this, numerous technologies and tools, such as building information modeling (BIM) and digital twins, have been developed to help achieve smart cities. To ensure research is continuously up to date and new technologies are considered within the field, further study is required. The Research Anthology on BIM and Digital Twins in Smart Cities considers the uses, challenges, and opportunities of BIM and digital twins within smart cities. Covering key topics such as data, design, urban areas, technology, and sustainability, this major reference work is ideal for industry professionals, government officials, computer scientists, policymakers, researchers, scholars, practitioners, instructors, and students.

This book gathers the latest research results of scientists from different countries who have made essential contributions to the novel analysis of cyber security. Addressing open problems in the cyber world, the book consists of two parts. Part I focuses on cyber operations as a new tool in global security policy, while Part II focuses on new cyber security technologies when building cyber power capabilities. The topics discussed include strategic perspectives on cyber security and cyber warfare, cyber security implementation, strategic communication, trusted computing, password cracking, systems security and network security among others.

This book gathers the peer-reviewed papers presented at the 8th edition of the International Workshop "Service Orientation in Holonic and Multi-Agent Manufacturing - SOHOMA'18" held at the University of Bergamo, Italy on June 11-12, 2018. The objective of the SOHOMA annual workshops is to foster innovation in smart and sustainable manufacturing and logistics systems by promoting new concepts, methods and solutions that use service orientation of agent-based control technologies with distributed intelligence. Reflecting the theme of SOHOMA'18: "Digital transformation of manufacturing with agent-based control and service orientation of Internet-scale platforms", the research included focuses on how the digital transformation, as advocated by the "Industry 4.0", "Industrial Internet of Things", "Cyber-Physical Production Systems" and "Cloud Manufacturing" frameworks, improves the efficiency, agility and sustainability of manufacturing processes, products, and services, and how it relates to the interaction between the physical and informational worlds, which is implemented in the virtualization of products, processes and resources managed as services.

This textbook is for courses in cyber security education that follow National Initiative for Cybersecurity Education (NICE) KSAs work roles and framework, that adopt the Competency-Based Education (CBE) method. The book follows the CBT (KSA) general framework, meaning each chapter contains three sections, knowledge and questions, and skills/labs for Skills and Abilities. The author makes an explicit balance between knowledge and skills material in information security, giving readers immediate applicable skills. The book is divided into seven parts: Securely Provision; Operate and Maintain; Oversee and Govern; Protect and Defend; Analysis; Operate and Collect; Investigate. All classroom materials (in the book an ancillary) adhere to the NICE framework. Mirrors classes set up by the National Initiative for Cybersecurity Education (NICE) Adopts the Competency-Based Education (CBE) method of teaching, used by universities, corporations, and in government training Includes content and ancillaries that provide skill-based instruction on compliance laws, information security standards, risk response and recovery, and more

Why and how did South Korea become the world's top digital government leader? This book examines the Korean model and how it is different from the digital government models of the West, specifically of the United States and the UK. The book also looks at the successes and failures that South Korea has encountered during the process of helping developing nations set up digital governments. The book begins with the origins and historical development of digital governance. It ex-

amines digital government strategies and informatization policies in Korea's nation development and its promotion of the information and communications technology (ICT) industry. The book explains that one of the key successes was the result of leadership and a strong pan-governmental propulsion system, namely ICT governance. The book also suggests a new digital government development model in response to rapid changes in the ICT environment, specifically in view of the Fourth Industrial Revolution. It is a useful reference for developing countries that are looking at developing their own national information master plan, including digital government.

Global Environmental Careers Global Environmental Careers - The Worldwide Green Jobs Resource This book is the ideal guide to equipping you with the tools and know-how to develop an environmental career. It is filled with practical advice, case studies, personal profiles and top tips across the global environment sector. An essential resource for anyone, from school students to those who are already in work but dreaming of a more meaningful career. 'This new book comes at exactly the right moment. There has never been a more critical time for effective, international action on our common ecological crisis, and success in that work requires a new generation of 21st Century environmental professionals.' Kevin Doyle, Executive Director, Office of Career and Professional Development, Yale School of the Environment 'As an experienced green career coach, the top questions I hear from green job seekers are, "What are the green jobs out there, which ones would be a good match, how do I get my foot in the door, and where do I find these jobs?" Taberham's book answers all of these in a refreshingly approachable way.' Lisa Yee-Litzenberg, President, Green Career Advisor LLC 'One of the biggest challenges environmental career seekers face is understanding and muddling through the opportunities available to them based on their experience, education, and interest. Taberham's book is a great resource to help people navigate their options and grab some tips for the career journey.' Laura Thorne, The Environmental Career Coach 'A fantastic book for those who are interested in pursuing a role in sustainability. Jam-packed with helpful resources, career insights, and real-life case studies this is a go-to resource for professionals who are launching their careers.' Sharmila Singh, New Lens Consulting 'Justin Taberham provides an impressive global overview of a multifaceted, ever-changing sector that continues to evolve rapidly due to advances in technology and knowledge, changes in funding and incentives, and shifts in priorities and laws.' Carol L. McClelland, PhD, Author of Green Careers for Dummies

Scheduling is defined as the process of assigning operations to resources over time to optimize a criterion. Problems with scheduling comprise both a set of resources and a set of a consumers. As such, managing scheduling problems involves managing the use of resources by several consumers. This book presents some new applications and trends related to task and data scheduling. In particular, chapters focus on data science, big data, high-performance computing, and Cloud computing environments. In addition, this book presents novel algorithms and literature reviews that will guide current and new researchers who work with load balancing, scheduling, and allocation problems.

Adaptive Health Management Information Systems, Fourth Edition is a thorough resource for a broad range of healthcare professionals—from informaticians, physicians and nurses, to pharmacists, public health and allied health professionals—who need to keep pace the digital transformation of health care. Wholly revised, updated, and expanded in scope, the fourth edition covers the latest developments in the field of health management information systems (HMIS) including big data analytics and machine learning in health care; precision medicine; digital health commercialization; supply chain management; informatics for pharmacy and public health; digital health leadership; cybersecurity; and social media analytics.

Digital Twin Driven Smart Design draws on the latest industry practice and research to establish a basis for the implementation of digital twin technology in product design. Coverage of relevant design theory and methodology is followed by detailed discussions of key enabling technologies that are supported by cutting-edge case studies of implementation. This groundbreaking book explores how digital twin technology can bring improvements to different kinds of product design process, including functional, lean and green. Drawing on the work of researchers at the forefront of this technology, this book is the ideal guide for anyone interested in digital manufacturing or computer-aided design. Provides detailed case studies that explore key applications of digital twin technology in design practice Introduces the concept of using digital twins to create the virtual commissioning of design projects Presents a framework to help engineers incorporate digital twins into their product design process

Retrofitting expresses, in a traditional approach, the process of improving something after it has been manufactured, constructed, or assembled. These systems integrate new technologies, new functions, and new services that increase the energy performance in existing private, public, and commercial buildings. Retrofitting for Optimal Energy Performance is a comprehensive reference source that examines environmentally conscious technologies and their applications in advancing retrofitting practices. Providing relevant theoretical frameworks and the latest empirical research findings in the area, it highlights an array of topics such as climate change, energy management, and optimization modeling, and is essential for academicians, students, researchers, engineers, architects, entrepreneurs, managers, policymakers, and building owners.

Gain a thorough understanding of essential marketing principles with Pride and Ferrell's visually engaging, inviting MARKETING. This popular, proven presentation helps you develop the knowledge and decision-making skills to succeed in today's competitive business environment. In-depth coverage highlights fundamental marketing concepts and strategies while practical applications and real-world examples emphasize the latest in social networking, digital marketing, social and environmental responsibility, globalization, entrepreneurship and marketing in times of transition. This new edition also features expanded coverage of business markets and buying behavior, marketing channels and supply-chain management, retailing, personal selling and marketing analytics. MARKETING is essential for career success no matter what your background. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Digital transformation is inevitable, for organisations who seek to remain relevant in the future. The objective of any digital transformation is to innovatively apply the technology stack to reinvent the organisation and the way in which it will engage with the customer to deliver value to them. Given that each organisation has a unique DNA with distinctive aspirations, the digital journey need to be individually crafted with clear purpose, technology choices, and implementation specifics. Leaders will be called upon to take well-informed and deliberative decisions that have enormous implications and could very well define the future of the organisation. This book provides the necessary framework to assist leaders define their transformation agenda and execution specifics. Authors present

an integrated approach, covering technological, strategic and organisational perspectives, while pointing out the decisions that need to be considered at various milestones during the digital transformation journey. This is an essential handbook for the industry leaders and transformation professionals as they embark on the digital transformation journey.

MACHINE LEARNING PARADIGM FOR INTERNET OF THINGS APPLICATIONS As companies globally realize the revolutionary potential of the IoT, they have started finding a number of obstacles they need to address to leverage it efficiently. Many businesses and industries use machine learning to exploit the IoT's potential and this book brings clarity to the issue. Machine learning (ML) is the key tool for fast processing and decision-making applied to smart city applications and next-generation IoT devices, which require ML to satisfy their working objective. Machine learning has become a common subject to all people like engineers, doctors, pharmacy companies, and business people. The book addresses the problem and new algorithms, their accuracy, and their fitness ratio for existing real-time problems. Machine Learning Paradigm for Internet of Thing Applications provides the state-of-the-art applications of machine learning in an IoT environment. The most common use cases for machine learning and IoT data are predictive maintenance, followed by analyzing CCTV surveillance, smart home applications, smart-healthcare, in-store 'contextualized marketing', and intelligent transportation systems. Readers will gain an insight into the integration of machine learning with IoT in these various application domains.

While AI, robots, bio-technologies and digital media are transforming work, culture and social life, there is little understanding of or agreement about the scope and significance of this change. This new interpretation of the 'great transformation' uses history and evolutionary theory to highlight the momentous shift in human consciousness taking place. Only by learning from recent crises and rejecting technological determinism will governments and communities re-design social arrangements that ensure we all benefit from the new and emerging technologies. The book documents the transformations underway in financial markets, entertainment, medicine, affecting all aspects of work and social life. It draws on historical sociology and co-evolutionary theory arguing that the radical evolution of human consciousness and social life now underway is comparable to, if not greater than the agrarian revolution (10,000 BCE), the explosion of science, philosophy and religion in the Axial age (600 BCE), and the recent industrial revolution. Turning to recent major socio-economic crisis, and asking what can be learnt from them, the answer is we cannot afford this time around to repeat the failures of elites and theoretical systems like economics to attend appropriately to radical change. We need to think beyond the constraints of determinist and reductionist explanations and embrace the idea of deep freedom. This book will appeal to educators, social scientists, policy-makers, business leaders and students. It concludes with social design principles that can inform deliberative processes and new social arrangements that ensure everyone benefits from the affordances of the new and emerging technologies.

The aim of this edited book is to provide a comprehensive overview of the opportunities and challenges related to innovation for sustainability. Combining work from both emerging and established scholars in different academic fields, this book provides an integrated understanding of the topic from four perspectives. First, the big picture: frameworks, types, and drivers; second, strategy and leadership; third, measurement and assessment and fourth, tools, methods and technologies. Chapter 11 of this book is available open access under a CC BY 4.0 license at link.springer.com. The editors donate their remuneration for this book to conservation organisation the WWF.

Are you ready for the IoT revolution? The Internet of Things (IoT) will soon be everywhere—embedded in interconnected devices we'll use every day. Already, cars, appliances, and wearables transmit realtime data to improve performance . . . and new IoT products can even save your life. Consumer goods are just the tip of the iceberg. Amid projections that 30 billion smart devices will be linked in the near future, traditional companies such as Siemens, GE, and John Deere are preparing for profound changes to management, strategy, manufacturing, and maintenance. With the IoT, for example, sensors warn when a critical assembly-line part is about to break, or track how customers actually use products. Data hubs collect and share information instantly with departments, supply chains, partners, and customers—anchoring the organization and replacing hierarchies with circular systems. The Future is Smart documents the shifts now under way. Written by a leading IoT strategist, the book explains how companies are tapping technology to: Optimize supply chains • Maximize quality • Boost safety • Increase efficiency • Reduce waste • Cut costs • Revolutionize product design • Delight customers For those who are ready, the opportunities are endless. This big-think book reveals concrete actions for thriving in this new tech-enabled world.

The comprehensive and authoritative guide to power electronics in renewable energy systems Power electronics plays a significant role in modern industrial automation and high- efficiency energy systems. With contributions from an international group of noted experts, Power Electronics in Renewable Energy Systems and Smart Grid: Technology and Applications offers a comprehensive review of the technology and applications of power electronics in renewable energy systems and smart grids. The authors cover information on a variety of energy systems including wind, solar, ocean, and geothermal energy systems as well as fuel cell systems and bulk energy storage systems. They also examine smart grid elements, modeling, simulation, control, and AI applications. The book's twelve chapters offer an application-oriented and tutorial viewpoint and also contain technology status review. In addition, the book contains illustrative examples of applications and discussions of future perspectives. This important resource: Includes descriptions of power semiconductor devices, two level and multilevel converters, HVDC systems, FACTS, and more Offers discussions on various energy systems such as wind, solar, ocean, and geothermal energy systems, and also fuel cell systems and bulk energy storage systems Explores smart grid elements, modeling, simulation, control, and AI applications Contains state-of-the-art technologies and future perspectives Provides the expertise of international authorities in the field Written for graduate students, professors in power electronics, and industry engineers, Power Electronics in Renewable Energy Systems and Smart Grid: Technology and Applications offers an up-to-date guide to technology and applications of a wide-range of power electronics in energy systems and smart grids.

Social Impacts of Smart Grids: The Future of Smart Grids and Energy Market Design explores the significant, unexplored societal consequences of our meteoric evolution towards intelligent, responsive and sustainable power generation and distribution systems—the so-called 'smart grid'. These consequences include new patterns of consumption behavior, systems planning under increasing uncertainty, and the ever-growing complexities involved. The work covers the historical impact of the transformation, examines the changing role of production and consumption behavior, articulates the principles and options for socially responsible smart grid power market design, and explores social acceptance of the smart grid. Where relevant, it examines adjacent literatures from P2P electricity markets, electric vehicles, smart homes and smart cities, and related 'internet of energy' developments. Finally, it provides insights into mitigating the likely social consequences of our integrated low-carbon energy future. Evaluates the connections between the concept of sustainability and the social impacts of the smart grids Analyzes emerging trends in smart grids connected with trends towards the sharing economy Investigates environmental degradation awareness and environmental stewardship goals associated with smart grids Explores how to mitigate social challenges with effective smart grid power market design Integrates energy stewardship and social acceptance litera-

tures into the discussion of the smart grid

Ever since the turn of the century, people have watched on with amazement at the rapid rate of change in the technological world. Technology has become an increasingly more important part of the world that we live in and inhabit. However, what many people do not realize is the immense, almost empirical power of technology today. As we go from 2017 into 2018, and approach a new decade in the near future, technology takes center-stage once again. This is vitally important and a major distinction that you should look to try make the most of. In this guide, we are going to show you how you can best grasp what is coming in the future based on the signs that point to the latest and greatest trends. So, with that in mind, let's begin by taking a look at some of the top trends which experts believe are going to play an integral role in 2018. If you are serious about making 2018 the year of your technological revolution, then you would do well to read on and see what awaits!

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The entertainment industry has long been dominated by legendary screenwriter William Goldman's "Nobody-Knows-Anything" mantra, which argues that success is the result of managerial intuition and instinct. This book builds the case that combining such intuition with data analytics and rigorous scholarly knowledge provides a source of sustainable competitive advantage - the same recipe for success that is behind the rise of firms such as Netflix and Spotify, but has also fueled Disney's recent success. Unlocking a large repertoire of scientific studies by business scholars and entertainment economists, the authors identify essential factors, mechanisms, and methods that help a new entertainment product succeed. The book thus offers a timely alternative to "Nobody-Knows" decision-making in the digital era: while coupling a good idea with smart data analytics and entertainment theory cannot guarantee a hit, it systematically and substantially increases the probability of success in the entertainment industry. Entertainment Science is poised to inspire fresh new thinking among managers, students of entertainment, and scholars alike. Thorsten Hennig-Thurau and Mark B. Houston - two of our finest scholars in the area of entertainment marketing - have produced a definitive research-based compendium that cuts across various branches of the arts to explain the phenomena that provide consumption experiences to capture the hearts and minds of audiences. Morris B. Holbrook, W. T. Dillard Professor Emeritus of Marketing, Columbia University Entertainment Science is a must-read for everyone working in the entertainment industry today, where the impact of digital and the use of big data can't be ignored anymore. Hennig-Thurau and Houston are the scientific frontrunners of knowledge that the industry urgently needs. Michael Kölmel, media entrepreneur and Honorary Professor of Media Economics at University of Leipzig Entertainment Science's winning combination of creativity, theory, and data analytics offers managers in the creative industries and beyond a novel, compelling, and comprehensive approach to support their decision-making. This ground-breaking book marks the dawn of a new Golden Age of fruitful conversation between entertainment scholars, managers, and artists. Allègre Hadida, Associate Professor in Strategy, University of Cambridge

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Interactive Exercises for Cross-Cultural Psychology provides material for interactive discussion of a range of topics in cross-cultural psychology, including regional and indigenous psychology; symbolic and expressive psychology; identity; social perception and cognition; interpersonal interaction; emotion, motivation, and health; development and family; government and law; economics and work; environmental psychology; animals and other species; and the psychology of recreation and sport. It will help students apply cultural psychology to social issues, and makes these issues relevant to students in health, forensic, organizational, sport and exercise, and other applied psychology fields. It offers suggestions for exposition, simulation, and confrontation of important cultural issues that matter to students, while allowing for maximum creativity in instructional design. Thoroughly and currently referenced, with connections to a wide range of accessible web-based and open-source materials, it is user-friendly across a spectrum of classroom and workshop applications, including online delivery.

This book presents select proceedings of the International Conference on Advances in Renewable Energy and Electric Vehicles (AREEV 2020), and examines related emerging trends, feasible solutions to shape and enable the development of mankind. The topics covered include renewable energy sources, electric vehicles, energy storage systems, power system protection & security, smart grid and wide band-gap semiconductor technologies. The book also discusses applications of signal processing, artificial neural networks, optimal and robust control systems, and modeling and simulation of power electronic converters. The book will be a valuable reference for beginners, researchers, and professionals interested in power systems, renewable energy, and electric vehicles.

The idea of storytelling goes beyond the borders of language, culture, or traditional education, and has historically been a tie that bonds families, communities, and nations. Digital storytelling offers opportunities for authentic academic and non-academic literacy learning across a multitude of genres. It is easily accessible to most members of society and has the potential to transform the boundaries of traditional education. As concepts around traditional literacy education evolve and become more culturally and linguistically relevant and responsive, the connections between digital storytelling and disciplinary literacy warrant considered exploration. Connecting Disciplinary Literacy and Digital Storytelling in K-12 Education develops a conceptual framework around pedagogical connections to digital storytelling within K-12 disciplinary literacy practices. This essential reference book supports student success through the integration of digital storytelling across content areas and grade levels. Covering topics that include immersive storytelling, multiliteracies, social justice, and pedagogical storytelling, it is intended for stakeholders interested in innovative K-12 disciplinary literacy skill development, research, and practices including but not limited to curriculum directors, education faculty, educational researchers, instructional facilitators, literacy professionals, teachers, pre-service teachers, professional development coordinators, teacher preparation programs, and students.

This book constitutes the proceedings of the 13th International Conference on Design Science Research in Information Systems and Technology, DESRIST 2018, held in June 2018 in Chennai, India. The 24 full papers presented in this volume were carefully reviewed and selected from 96 papers. The contributions are organized in topical sections named: HCI and Design, Design Foundations, Design Foundations, Design in Healthcare, Advances in Data Science and Analytics, ICT for Development, Designing Cybersecurity, and Design Applications.

Digital disruption is accelerating. Implementing a successful digital transformation strategy requires that senior managers make trade-off decisions to reinvent a business. Equally important all decision makers must learn to ask the right questions, use data and computer support in decision making, and increase their knowledge and skills. Creating a data-centric culture and rewarding data-based decision making leads to successful digital transformation. Join the digital journey. This book is targeted at managers, especially middle-level managers who are trying to come to grips with using data-based decision making in a transforming organization. The authors explore a number of broad

questions including: How can managers become data-based decision makers? How can digital transformation become part of an organizational strategy? What new skills do managers need to implement digital transformation? How will we know an organization has been successfully transformed? An increasing complexity of models used to predict real-world systems leads to the need for algorithms to replace complex models with far simpler ones, while preserving the accuracy of the predictions. This three-volume handbook covers methods as well as applications. This third volume focuses on applications in engineering, biomedical engineering, computational physics and computer science.

The two volume set LNCS 11486 and 11487 constitutes the proceedings of the International Workshop on the Interplay Between Natural and Artificial Computation, IWINAC 2019, held in Almería, Spain, in June 2019. The total of 103 contributions was carefully reviewed and selected from 190 submissions during two rounds of reviewing and improvement. The papers are organized in two volumes, one on understanding the brain function and emotions, addressing topics such as new tools for analyzing neural data, or detection emotional states, or interfacing with physical systems. The second volume deals with bioinspired systems and biomedical applications to machine learning and contains papers related bioinspired programming strategies and all the contributions oriented to the computational solutions to engineering problems in different applications domains, as biomedical systems, or big data solutions.

This is volume 1 of a 2-volume set. Marine Design XIII collects the contributions to the 13th International Marine Design Conference (IMDC 2018, Espoo, Finland, 10-14 June 2018). The aim of this IMDC series of conferences is to promote all aspects of marine design as an engineering discipline. The focus is on key design challenges and opportunities in the area of current maritime technologies and markets, with special emphasis on: • Challenges in merging ship design and marine applications of experience-based industrial design • Digitalisation as technological enabler for stronger link between efficient design, operations and maintenance in future • Emerging technologies and their impact on future designs • Cruise ship and icebreaker designs including fleet compositions to meet new market demands To reflect on the conference focus, Marine Design XIII covers the following research topic series: •State of art ship design principles - education, design methodology, structural design, hydrodynamic design; •Cutting edge ship designs and operations - ship concept design, risk and safety, arctic design, autonomous ships; •Energy efficiency and propulsions - energy efficiency, hull form design, propulsion equipment design; •Wider marine designs and practices - navy ships, offshore and wind farms and production. Marine Design XIII contains 2 state-of-the-art reports on design methodologies and cruise ships design, and 4 keynote papers on new directions for vessel design practices and tools, digital maritime traffic, naval ship designs, and new tanker design for arctic. Marine Design XIII will be of interest to academics and professionals in maritime technologies and marine design.

This book introduces the technical foundations and tools for estimating the power consumption of internet networks and services, including a detailed description of how these models are constructed and applied. Modeling the Power Consumption and Energy Efficiency of Telecommunications Networks can be used to gain insight into the construction of mathematical models that provide realistic estimates of the power consumption of internet networks and services. This knowledge enables forecasting the energy footprint of future networks and services to integrate sustainability and environmental considerations into network planning and design. FEATURES Provides the motivation for developing mathematical models for telecommunications network and service power consumption and energy efficiency modeling Presents factors impacting overall network and service power consumption Discusses the types of network equipment and their power consumption profiles Reviews the basics of power modeling, including network segmentation, traffic forecasting, top-down and bottom-up models, wired and wireless networks, data centers and servers Explores the application of energy efficiency metrics for equipment, networks, and services This book is aimed at students and technologists as well as technology managers and policy makers. This book will be of value to any organization that wishes to estimate the energy footprint of the use of information and communications technologies. This book can also be integrated into a course on the sustainability of information and communications technologies.

The book focuses on original approaches intended to support the development of biologically inspired cognitive architectures. It bridges together different disciplines, from classical artificial intelligence to linguistics, from neuro- and social sciences to design and creativity, among others. The chapters, based on contributions presented at the Eleventh Annual Meeting of the BICA Society, held

on November 10-14, 2020, in Natal, Brazil, discuss emerging methods, theories and ideas towards the realization of general-purpose humanlike artificial intelligence or fostering a better understanding of the ways the human mind works. All in all, the book provides engineers, mathematicians, psychologists, computer scientists and other experts with a timely snapshot of recent research and a source of inspiration for future developments in the broadly intended areas of artificial intelligence and biological inspiration.

With some 200 indicators, the 2017 edition of the OECD Science, Technology and Industry (STI) Scoreboard shows how the digital transformation affects science, innovation, the economy, and the way people work and live.

The book discusses the evolution of future generation technologies through Internet of Things (IoT) in the scope of Artificial Intelligence (AI). The main focus of this volume is to bring all the related technologies in a single platform, so that undergraduate and postgraduate students, researchers, academicians, and industry people can easily understand the AI algorithms, machine learning algorithms, and learning analytics in IoT-enabled technologies. This book uses data and network engineering and intelligent decision support system-by-design principles to design a reliable AI-enabled IoT ecosystem and to implement cyber-physical pervasive infrastructure solutions. This book brings together some of the top IoT-enabled AI experts throughout the world who contribute their knowledge regarding different IoT-based technology aspects.

This handbook addresses the intersection between corporate sustainability and digital transformation. It analyzes the challenges and transformations required to be able to have sustainable businesses with a future orientation. Topics include current and potential social, demographic, technological, and managerial trends; the implications of the digital revolution in society and business; as well as the challenges of being sustainable, and profitable. Providing an understanding of the business reasons to incorporate a future orientation into the business strategy, this handbook facilitates an understanding of the need for profound changes in individual behavior, organizational culture, public policy, and business environments to adapt to the accelerated changes and manage business with orientation to the future.

This book introduces the concept of using drones as a teaching tool to explore the fundamental principles, technology and applications of Cyber-Physical Systems (CPS). A short introduction sets CPS in the context of the 4th industrial revolution, and describes various CPS technologies including self-driving cars, commercial intelligent drones and mobile robots, in which artificial intelligence routinely supports smarter decision-making. The core of the book then focuses on commercially available drones, the only available system offering the advantage of cyber-physical bridging through 3D autonomous dynamic flying in classroom conditions. Chapters describe drone technology, including location sensors and imaging systems. CPS theory is explained through typical drone flying procedures and do-it-yourself (DIY) aerial photography in which communication between sensors, actuators and controllers occurs through cyber-physical bi-directional bridging. This book opens new possibilities in fostering 4th industrial revolution literacy, introducing relevant examples from readily available equipment, making core elements of cyber-physical bridging accessible. It is aimed primarily at those students who have an interest in CPS, drones and those from disciplines that are concerned with spatial information.

This book contains contributions from the IX International Scientific Conference "Digital Transformation of the Economy: Challenges, Trends and New Opportunities," which was organized by Samara State University of Economics (SSEU, Samara, Russia), 2021, and devoted to the 90th anniversary of this higher education institution. Digital technologies became even more in demand during the pandemic, when companies, state authorities, and educational organizations were forced to switch to a remote format of work. The "forced" digitization of the usual ways of activity required rapid and decisive changes. Understanding the ongoing digital transformation implies the relevance of further in-depth research of this issue in the context of various socioeconomic systems, interdisciplinary interactions, and cooperation between scientists and practitioners. The book is an attempt to analyze these changes and consider them from the point of view of various scientific areas (economics, management, education, law, sociology, and others). This book addresses theoretical and practical aspects by studying the digital technology application in terms of the new socioeconomic reality development: big data in the digital economy, data collection and exchange, artificial intelligence, intelligent communications, digital platforms and strategies for the sustainable development of socioeconomic systems, and new requirements of professional and business education. It provides significant value for scientists, teachers, and students of higher educational institutions.