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The manufacturing industry will reap significant benefits from encouraging the development of digital manufacturing science and technology. Digital Manufacturing Science uses theorems, illustrations and tables to introduce the definition, theory architecture, main content, and key technologies of digital manufacturing science. Readers will be able to develop an in-depth understanding of the emergence and the development, the theoretical background, and the techniques and methods of digital manufacturing science. Furthermore, they will also be able to use the basic theories and key technologies described in Digital Manufacturing Science to solve practical engineering problems in modern manufacturing processes. Digital Manufacturing Science is aimed at advanced undergraduate and postgraduate students, academic researchers and researchers in the manufacturing industry. It allows readers to integrate the theories and technologies described with their own research works, and to propose new ideas and new methods to improve the theory and application of digital manufacturing science.

Industry X.0 takes an insightful look at the business impact of the Internet of Things movement on the industrial sphere. Eric Schaeffer combines deep analysis with practical strategic guidance, and offers tangible and actionable recommendations on how to realise value in the current digital age. Based on extensive research and insights into the six core competencies that have been identified by Accenture, Industry X.0 explores critical aspects of the Industrial Internet of Things (IIoT), discussing and defining them in an engaging and accessible manner. These include managing smart data, handling digital product development, skilling up the workforce, mastering innovation, making the most of platforms and ecosystems, and much more. Meticulously researched and clearly explained, Industry X.0 makes a stringent case for companies to actively shift mindsets away from products, towards ser-

vices, value and outcomes. Complemented by a wealth of case studies and real world examples, this book provides invaluable, practical 'how-to' advice for business organizations as they embark on their journeys into the era of the IIoT.

Are you an RTL or system designer that is currently using, moving, or planning to move to an HLS design environment? Finally, a comprehensive guide for designing hardware using C++ is here. Michael Fingeroff's High-Level Synthesis Blue Book presents the most effective C++ synthesis coding style for achieving high quality RTL. Master a totally new design methodology for coding increasingly complex designs! This book provides a step-by-step approach to using C++ as a hardware design language, including an introduction to the basics of HLS using concepts familiar to RTL designers. Each chapter provides easy-to-understand C++ examples, along with hardware and timing diagrams where appropriate. The book progresses from simple concepts such as sequential logic design to more complicated topics such as memory architecture and hierarchical sub-system design. Later chapters bring together many of the earlier HLS design concepts through their application in simplified design examples. These examples illustrate the fundamental principles behind C++ hardware design, which will translate to much larger designs. Although this book focuses primarily on C and C++ to present the basics of C++ synthesis, all of the concepts are equally applicable to SystemC when describing the core algorithmic part of a design. On completion of this book, readers should be well on their way to becoming experts in high-level synthesis.

The essential introduction to the principles and applications of feedback systems—now fully revised and expanded This textbook covers the mathematics needed to model, analyze, and design feedback systems. Now more user-friendly than ever, this revised and expanded edition of Feedback Systems is a one-volume resource for students and researchers in mathematics and engineering. It has appli-

cations across a range of disciplines that utilize feedback in physical, biological, information, and economic systems. Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. Features a new chapter on design principles and tools, illustrating the types of problems that can be solved using feedback Includes a new chapter on fundamental limits and new material on the Routh-Hurwitz criterion and root locus plots Provides exercises at the end of every chapter Comes with an electronic solutions manual An ideal textbook for undergraduate and graduate students Indispensable for researchers seeking a self-contained resource on control theory

Eric Schaeffer has always believed that when the time was right and he was ready that he would find the Big One (an intelligent, sexy, loving wife). But his last girlfriend said no to his proposal, and since then he hasn't met anyone he wanted to have a second date with. This is a wild, sometimes raunchy, sometimes poignant, and always honest account of a semi-famous man's attempts at love.

Industrial revolutions have impacted both, manufacturing and service. From the steam engine to digital automated production, the industrial revolutions have conducted significant changes in operations and supply chain management (SCM) processes. Swift changes in manufacturing and service systems have led to phenomenal improvements in productivity. The fast-paced environment brings new chal-

Challenges and opportunities for the companies that are associated with the adaptation to the new concepts such as Internet of Things (IoT) and Cyber Physical Systems, artificial intelligence (AI), robotics, cyber security, data analytics, block chain and cloud technology. These emerging technologies facilitated and expedited the birth of Logistics 4.0. Industrial Revolution 4.0 initiatives in SCM has attracted stakeholders' attentions due to its ability to empower using a set of technologies together that helps to execute more efficient production and distribution systems. This initiative has been called Logistics 4.0 of the fourth Industrial Revolution in SCM due to its high potential. Connecting entities, machines, physical items and enterprise resources to each other by using sensors, devices and the internet along the supply chains are the main attributes of Logistics 4.0. IoT enables customers to make more suitable and valuable decisions due to the data-driven structure of the Industry 4.0 paradigm. Besides that, the system's ability of gathering and analyzing information about the environment at any given time and adapting itself to the rapid changes add significant value to the SCM processes. In this peer-reviewed book, experts from all over the world, in the field present a conceptual framework for Logistics 4.0 and provide examples for usage of Industry 4.0 tools in SCM. This book is a work that will be beneficial for both practitioners and students and academicians, as it covers the theoretical framework, on the one hand, and includes examples of practice and real world.

ICT has had a huge impact on businesses and organizations in general, with new business models, new marketing channels, and new markets being reached using these technologies. ICT can promote new strategies and enhancers to optimize various aspects of business, but this technology also provides important tools that can empower social entrepreneurship initiatives to develop, fund, and implement new and innovative solutions to social, cultural, and environmental problems. With the upheaval caused by the COVID-19 pandemic and its subsequent impact on the economy, the methods and tools used within this field will be forever impacted. ICTs and the digital economy are huge trends that will affect organizations in several dimensions, such as how to communicate and improve performance. Thus, new perspectives and research are needed to identify the trends emerging in these fields. The Handbook of Research on Entrepreneurship, Innovation, Sustainability, and ICTs in the Post-COVID-19 Era broadens the exploitation of entrepreneurship,

innovation, and ICTs in a global approach to draw attention to multidisciplinary perspectives of these contexts and their influence in modern organizations. In addition, the book explores and discusses, through innovative studies, case studies, systematic literature reviews, and reports, the key developments in digital entrepreneurship, circular economy and digitalization, digital business models, digital market and internationalization, digital economy, trends and challenges for organizations, digital entrepreneurial ecosystems, IS/ICT in organizations, social aspects of information systems, and more. This book is ideally intended for business managers, industry professionals, entrepreneurs, practitioners, stakeholders, researchers, academicians, and students looking for how business and organizations are going to shift and advance in the post-COVID-19 era.

Digitale Chemieindustrie Umfassend und praxisnah bietet dieses Buch alles Wissenswerte zum Thema Digitalisierung in der chemischen Industrie Die chemische Industrie befindet sich derzeit in einem Wandel und steht vor zahlreichen Herausforderungen. Die Digitalisierung spielt dabei eine große Rolle. Sie ist nicht nur der Auslöser für Veränderungen, sondern eröffnet auch neue Wege und Möglichkeiten. Ob in digitalen Geschäftsmodellen, digitalen Prozessen oder für datenbasierte Entscheidungen - die Digitalisierung durchzieht alle Bereiche in der modernen chemischen Industrie. Digitale Chemieindustrie: Anforderungen Chemie 4.0, Praxisbeispiele und Perspektiven bietet einen umfassenden Einblick in die Digitalisierung der chemischen Industrie. Nach einem Überblick über den Status Quo und die Entwicklung der digitalen Chemieindustrie werden zahlreiche Praxisbeispiele aus unterschiedlichen chemischen Unternehmen präsentiert. Abschließend werden Wege für eine erfolgreiche digitale Transformation aufgezeigt. Ob Händler, Mittelständler, Konzerne oder Chemie-/Pharma-Standorte - an dem Thema Digitalisierung kommt keiner vorbei. Geschrieben von führenden Fachleuten aus Industrie, Hochschule und Consulting - jede Sichtweise ist anders und bereichernd. Umfassende Betrachtung der Digitalisierung in der chemischen Industrie - von digitalen Technologien über digitale Geschäftsmodelle bis hin zur digitalen Transformation. Zahlreiche Fallbeispiele aus erster Hand und konkrete Lösungsansätze machen die Thematik für die Leser:innen greifbar. Digitale Chemieindustrie: Anforderungen Chemie 4.0, Praxisbeispiele und Perspektiven ist ein unverzichtbarer Leitfaden für Projektteams und Führungskräfte in der

chemisch-pharmazeutischen Industrie, alle Wissenschaftler:innen an Hochschulen sowie Unternehmensberater:innen und Referent:innen, die sich mit der Planung und Umsetzung von digitalen Prozessen in der Chemieindustrie auseinandersetzen.

Master the basic concepts and methodologies of digital signal processing with this systematic introduction, without the need for an extensive mathematical background. The authors lead the reader through the fundamental mathematical principles underlying the operation of key signal processing techniques, providing simple arguments and cases rather than detailed general proofs. Coverage of practical implementation, discussion of the limitations of particular methods and plentiful MATLAB illustrations allow readers to better connect theory and practice. A focus on algorithms that are of theoretical importance or useful in real-world applications ensures that students cover material relevant to engineering practice, and equips students and practitioners alike with the basic principles necessary to apply DSP techniques to a variety of applications. Chapters include worked examples, problems and computer experiments, helping students to absorb the material they have just read. Lecture slides for all figures and solutions to the numerous problems are available to instructors.

Focusing on the broader areas of Industry 4.0 as it applies to small and medium-sized enterprises (SMEs), this book offers a smooth adoption of techniques and technologies and presents advances, challenges, and opportunities for implementation. It will also enhance the role of academia by training new engineers on Industry 4.0 and digital transformation. Industry 4.0 in Small and Medium-Sized Enterprises (SMEs): Opportunities, Challenges, and Solutions presents concepts of predictive maintenance, digital factory, digital twin, additive manufacturing, and machining for sustainable development. It discusses the challenges faced by adopting Industry 4.0 including new security and privacy measures in the whole smart manufacturing setup while also explaining the impact of Industry 4.0 on Lean production systems. Implementation recommendations in the form of case studies, research studies, and the role academia can play are also provided. Practitioners, research scholars, academicians, and those studying or working in the Industry 4.0 sector will find this book of interest.

Industry 4.0 is based on the cyber-physical transformation of processes, systems and methods applied in the manufacturing sector, and on its autonomous and decentral-

ized operation. Industry 4.0 reflects that the industrial world is at the beginning of the so-called Fourth Industrial Revolution, characterized by a massive interconnection of assets and the integration of human operators with the manufacturing environment. In this regard, data analytics and, specifically, the artificial intelligence is the vehicular technology towards the next generation of smart factories. Chapters in this book cover a diversity of current and new developments in the use of artificial intelligence on the industrial sector seen from the fourth industrial revolution point of view, namely, cyber-physical applications, artificial intelligence technologies and tools, Industrial Internet of Things and data analytics. This book contains high-quality chapters containing original research results and literature review of exceptional merit. Thus, it is in the aim of the book to contribute to the literature of the topic in this regard and let the readers know current and new trends in the use of artificial intelligence for the Industry 4.0.

This engaging and clearly written textbook/reference provides a must-have introduction to the rapidly emerging interdisciplinary field of data science. It focuses on the principles fundamental to becoming a good data scientist and the key skills needed to build systems for collecting, analyzing, and interpreting data. The Data Science Design Manual is a source of practical insights that highlights what really matters in analyzing data, and provides an intuitive understanding of how these core concepts can be used. The book does not emphasize any particular programming language or suite of data-analysis tools, focusing instead on high-level discussion of important design principles. This easy-to-read text ideally serves the needs of undergraduate and early graduate students embarking on an "Introduction to Data Science" course. It reveals how this discipline sits at the intersection of statistics, computer science, and machine learning, with a distinct heft and character of its own. Practitioners in these and related fields will find this book perfect for self-study as well. Additional learning tools: Contains "War Stories," offering perspectives on how data science applies in the real world Includes "Homework Problems," providing a wide range of exercises and projects for self-study Provides a complete set of lecture slides and online video lectures at www.data-manual.com Provides "Take-Home Lessons," emphasizing the big-picture concepts to learn from each chapter Recommends exciting "Kaggle Challenges" from the online platform Kaggle Highlights "False Starts," revealing the sub-

tle reasons why certain approaches fail Offers examples taken from the data science television show "The Quant Shop" (www.quant-shop.com)

Create the personalized and compelling experiences that today's customers expect by harnessing AI and digital technologies to create smart connected products, with this cutting-edge guide from senior leaders at Accenture. Digital technology is both friend and foe: highly disruptive, yet it cannot be ignored. As traditional products transform into smart connected products faster than ever before, companies that fail to make use of it now put themselves in the firing line for disintermediation or even eradication. However, digital technology is also the biggest opportunity for product-making businesses to create the next generation of goods in the marketplace. In *Reinventing the Product*, Eric Schaeffer and David Sovie, both Senior Managing Directors at Accenture, show how this reinvention is made possible, to deliver truly intelligent, and often even autonomous, products. *Reinventing the Product* makes the case for companies to rethink their product strategy, innovation and engineering processes, including: - How to harness the opportunities of AI and digital technologies, such as IoT sensors, blockchain, advanced analytics, cloud and edge computing - Practical advice on transforming their entire culture to build the future of successful 'living products' - Features case studies from global organizations such as Faurecia, Signify, Symmons and Haier and interviews with thought leaders from top companies including Amazon, ABB, Tesla, Samsung and Google This book provides the only advice any product-making company needs as it embarks on, or accelerates, its digitization journey. It's time to redefine the CEO success story. Meet eight iconoclastic leaders who helmed firms where returns on average outperformed the S&P 500 by more than 20 times.

Currently, the main operations of companies are either directly or indirectly interconnected in a global-world context. Competition has drifted from an individual to a supply chain basis, where digitalization plays a key role. Companies with better digital capabilities achieve sustainable competitive market advantages. In this context, companies must identify their current position in terms of digital capabilities, link these capabilities to supply chain performance, define their future desired competitive position and how their digital capabilities are going to help them to get there, and forecast their future desired performance not only at the individual com-

pany but also at the supply chain level. Increasing Supply Chain Performance in Digital Society considers innovative approaches to measure, manage, and project towards the future of the digital capabilities of both individual companies and supply chains. It also examines the relations these have with performance being a practical tool to identify not only where they are today in terms of digital capabilities but also where they should be long term and the resources needed to get them there. Covering a range of topics such as artificial intelligence and risk management, this reference work is ideal for practitioners, researchers, scholars, business owners, industry professionals, academicians, instructors, and students.

For readers of #GIRLBOSS and viewers of *Shark Tank*—a global revolution in entrepreneurship is under way, inspiring women to blaze a trail of financial self-reliance and become self-made. Featuring a foreword by Suze Orman. What does it mean to be self-made? It's not just about having money, but financial empowerment is where it begins. It means getting out of survival mode, where you are one problem away from catastrophe. It means changing your mindset from instant gratification to goal orientation. It means being able to sleep at night without worry. It means being rich in every way: rich in money, rich in family, rich in love, rich in time—abundant! For Nely Galán—entrepreneur, TV producer, and real estate mogul—helping women to become self-made is a movement and a mission. Galán pulls no punches. She is the straight-talking friend and mentor you've always wanted, and here she shares valuable, candid, no-nonsense lessons learned on her own path to becoming self-made ("There is no Prince Charming"; "Think like an immigrant"; "In your pain is your brand"; "Don't buy shoes, buy buildings!"). You'll read inspiring stories of women who started and grew businesses out of ingenuity, opportunity, and need. You'll find exercises to help you identify your goals and your strengths. You'll learn tips and tricks for saving money, making money, and finding "hidden money" that can help jump-start your self-made dreams. When you become self-made, the change in you inspires change in those around you, because one of the greatest rewards of a self-made life is seeing how the sparks from your personal revolution can light a fire in others. So come, join the Self-Made movement. The revolution starts inside of you! Praise for *Self Made* "A much-needed and wise book that teaches women not to fear money but to see it as a means of reaching our dreams. Nely shows us how to become money coura-

geous instead of finance fearful. I want to give this book to so many women (and men) I know. Thank you, Nely.”—Sandra Cisneros “Nely Galán and I have traveled the country together helping women grow their businesses and live their dreams. I know firsthand that Nely is the ultimate self-made woman and your best girlfriend. Her generosity of spirit jumps off the page as she shares the secrets of her hard-won success and her contagious confidence.”—Nell Merlino, creator of Take Our Daughters to Work Day and founder of Count Me In for Women’s Economic Independence “Self Made teaches women to unleash their spark and hustle. Nely inspires readers to use what they have to get what they want on their path to becoming self-made.”—Tory Johnson, “Deals & Steals” contributor on ABC’s Good Morning America and author of the #1 New York Times bestseller The Shift “You are not truly complete as a woman until you feel confident and empowered to make decisions about your money. Throughout my career, I have seen how a woman who takes ownership of her financial life is transformed and liberated, and how that in turn has a tremendous impact on her children. This is my belief and my personal experience, and it’s why Self Made resonates so strongly with me.”—Maria Elena Lagomasino, CEO of WE Family Offices and member of the board of directors of the Walt Disney Company, the Coca-Cola Company, and Avon Products, Inc. From the Hardcover edition.

Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to customers. It's also a cultural change that requires organizations to continually challenge the status quo, experiment, and get comfortable with failure. Already a key strategic initiative, digital transformation has taken on heightened importance in the wake of the coronavirus pandemic. Fifty-nine percent of 373 IT decision makers say that pressures stemming from the pandemic are accelerating their digital transformation efforts, according to an IDG Research business impact survey conducted in 2020. Moreover, despite budget concerns triggered by the COVID-19 outbreak, global spending on digital transformation technologies and services will grow 10.4 percent in 2020 to \$1.3 trillion, according to data researcher IDC published in 2020. Spending on digital tools hasn't been impacted as much as other IT because most large-scale projects already under way are instrumental to the broader business strategy, reasons IDC analyst Craig Simpson. Digital transformation

is generally viewed as an aggregation of modern tools and processes leveraged to solve business problems and satisfy customers. But many CIOs employ different means to execute on those drivers. This guide drill down on digital transformation and offer proven solution for leaders embarking on digital journeys You've probably heard the term digital transformation, but what does it mean to you and your organization? Do you really know what it is and why it matters? If you're shaking your head "no," you're not alone. There is a slew of different definitions and perspectives. Digital transformation is essential for any business looking to grow and stay ahead of the competition in today's market because let's face it, your customers have higher expectations and demand a more seamless digital experience than ever before. Without it, your business will not thrive, and dare we say it, may not even survive. With a mindset of continuous improvement and innovation, all of the benefits of a digital transformation are within reach. Just be sure to tackle the challenges as they come and do your best to prepare in advance. Digital transformation comes with a host of high-level benefits including: Digitalization of Business Operations Greater Resource Management Employee Empowerment Greater Customer Insights Better Customer Experience Creation of Digital Products and Services Opening the Door to Globalization Encourages (Easier) Collaboration Across Departments Increases Agility and Innovation Fosters a Digital Culture Introduces a New Level of Transparency The changing dynamics of global production, such as more complex and automated processes, high-level competitiveness and emerging technologies, have paved the way for a new generation of goods, products and services. Moreover, manufacturers are increasingly realizing the value of the data that their processes and products generate. Such trends are transforming manufacturing industry to the next generation, namely Industry 4.0, which is based on the integration of information and communication technologies and industrial technology. The book provides a conceptual framework and roadmap for decision-makers for this transformation This guide is what you need to become successful digitally with your career or business So what are you waiting for, click on the buy button now! This book discusses the conference that forms a unique platform to bring together academicians and practitioners from industrial engineering and management engineering as well as from other disciplines working on production function applying the tools of operational research and pro-

duction/operational management. Topics treated include: computer-aided manufacturing, Industry 4.0, big data and analytics, flexible manufacturing systems, fuzzy logic, industrial applications, information technologies in production management, optimization, production economy, production planning and control, productivity and performance management, project management, quality management, risk analysis and management, and supply chain management

A groundbreaking introduction to vectors, matrices, and least squares for engineering applications, offering a wealth of practical examples.

We are inclined to assume that digital technologies have suddenly revolutionized everything – including our relationships, our forms of work and leisure, and even our democracies – in just a few years. Armin Nassehi puts forward a new theory of digital society that turns this assumption on its head. Rather than treating digital technologies as an independent causal force that is transforming social life, he asks: what problem does digitalization solve? When we pose the question in this way, we can see, argues Nassehi, that digitalization helps societies to deal with and reduce complexity by using coded numbers to process information. We can also see that modern societies had a digital structure long before computer technologies were developed – already in the nineteenth century, for example, statistical pattern recognition technologies were being used in functionally differentiated societies in order to recognize, monitor and control forms of human behaviour. Digital technologies were so successful in such a short period of time and were able to penetrate so many areas of society so quickly precisely because of a pre-existing sensitivity that prepared modern societies for digital development. This highly original book lays the foundations for a theory of the digital society that will be of value to everyone interested in the growing presence of digital technologies in our lives.

UNESCO pub. Monographic compilation of conference papers on cultural industry (mass media) trends and cultural policy issues - discusses the definition, production, distribution, internationalisation, impact of technological change and mass media on cultural change, value system, behaviour and attitudes, benefits, social implications, role of UNESCO and national level governments, place of artists and performers, etc., and includes case studies. References. Conference held in Montreal 1980 Jun 9 to 13.

An introduction to the techniques and algo-

rithms of the newest field in robotics. Probabilistic robotics is a new and growing area in robotics, concerned with perception and control in the face of uncertainty. Building on the field of mathematical statistics, probabilistic robotics endows robots with a new level of robustness in real-world situations. This book introduces the reader to a wealth of techniques and algorithms in the field. All algorithms are based on a single overarching mathematical foundation. Each chapter provides example implementations in pseudo code, detailed mathematical derivations, discussions from a practitioner's perspective, and extensive lists of exercises and class projects. The book's Web site, www.probablistic-robotics.org, has additional material. The book is relevant for anyone involved in robotic software development and scientific research. It will also be of interest to applied statisticians and engineers dealing with real-world sensor data. Mneney's text focuses on basic concepts of digital signal processing, MATLAB simulation, and implementation on selected DSP hardware.

Now the most used textbook for introductory cryptography courses in both mathematics and computer science, the Third Edition builds upon previous editions by offering several new sections, topics, and exercises. The authors present the core principles of modern cryptography, with emphasis on formal definitions, rigorous proofs of security.

An introduction to the engineering principles of embedded systems, with a focus on modeling, design, and analysis of cyber-physical systems. The most visible use of computers and software is processing information for human consumption. The vast majority of computers in use, however, are much less visible. They run the engine, brakes, seatbelts, airbag, and audio system in your car. They digitally encode your voice and construct a radio signal to send it from your cell phone to a base station. They command robots on a factory floor, power generation in a power plant, processes in a chemical plant, and traffic lights in a city. These less visible computers are called embedded systems, and the software they run is called embedded software. The principal challenges in designing and analyzing embedded systems stem from their interaction with physical processes. This book takes a cyber-physical approach to embedded systems, introducing the engineering concepts underlying embedded systems as a technology and as a subject of study. The focus is on modeling, design, and analysis of cyber-physical systems, which integrate compu-

tation, networking, and physical processes. The second edition offers two new chapters, several new exercises, and other improvements. The book can be used as a textbook at the advanced undergraduate or introductory graduate level and as a professional reference for practicing engineers and computer scientists. Readers should have some familiarity with machine structures, computer programming, basic discrete mathematics and algorithms, and signals and systems.

With this hands-on introduction readers will learn what SDEs are all about and how they should use them in practice.

Moving Beyond Modern Portfolio Theory: Investing That Matters tells the story of how Modern Portfolio Theory (MPT) revolutionized the investing world and the real economy, but is now showing its age. MPT has no mechanism to understand its impacts on the environmental, social and financial systems, nor any tools for investors to mitigate the havoc that systemic risks can wreck on their portfolios. It's time for MPT to evolve. The authors propose a new imperative to improve finance's ability to fulfil its twin main purposes: providing adequate returns to individuals and directing capital to where it is needed in the economy. They show how some of the largest investors in the world focus not on picking stocks, but on mitigating systemic risks, such as climate change and a lack of gender diversity, so as to improve the risk/return of the market as a whole, despite current theory saying that should be impossible. "Moving beyond MPT" recognizes the complex relations between investing and the systems on which capital markets rely, "Investing that matters" embraces MPT's focus on diversification and risk adjusted return, but understands them in the context of the real economy and the total return needs of investors. Whether an investor, an MBA student, a Finance Professor or a sustainability professional, Moving Beyond Modern Portfolio Theory: Investing That Matters is thought-provoking and relevant. Its bold critique shows how the real world already is moving beyond investing orthodoxy.

The definitive introduction to game theory This comprehensive textbook introduces readers to the principal ideas and applications of game theory, in a style that combines rigor with accessibility. Steven Tadelis begins with a concise description of rational decision making, and goes on to discuss strategic and extensive form games with complete information, Bayesian games, and extensive form games with imperfect information. He covers a host of topics, including multistage and repeated games, bargaining theory, auc-

tions, rent-seeking games, mechanism design, signaling games, reputation building, and information transmission games. Unlike other books on game theory, this one begins with the idea of rationality and explores its implications for multiperson decision problems through concepts like dominated strategies and rationalizability. Only then does it present the subject of Nash equilibrium and its derivatives. Game Theory is the ideal textbook for advanced undergraduate and beginning graduate students. Throughout, concepts and methods are explained using real-world examples backed by precise analytic material. The book features many important applications to economics and political science, as well as numerous exercises that focus on how to formalize informal situations and then analyze them. Introduces the core ideas and applications of game theory Covers static and dynamic games, with complete and incomplete information Features a variety of examples, applications, and exercises Topics include repeated games, bargaining, auctions, signaling, reputation, and information transmission Ideal for advanced undergraduate and beginning graduate students Complete solutions available to teachers and selected solutions available to students

Buku ini merupakan kumpulan tulisan gagasan para Doktor yang merupakan alumni Program Doctor of Research in Management (DRM) BINUS Business School Bina Nusantara University. Gairah untuk berkiprah dan memberi manfaat yang besar bagi masyarakat banyak menjadi pendorong terbitnya buku ini. Digital Transformation yang menjadi pokok bahasan utama merupakan hal yang menjadi pilihan bagi perusahaan untuk tetap bertahan di era Industri 4.0 ini. Aspek ini yang menjadi warna tulisan di buku ini yang dibagi dalam tema-tema Organization and Leadership, Customer and Market Offering, Technology and System, dan Culture and Orientation. Pembagian tema ini menjadikan pembaca bisa membacanya secara acak, tidak harus berurutan. Dunia digital menjadi tidak bisa lepas dari kehidupan nyata. Di masa depan, penggunaan teknologi informasi dan komunikasi (ICT) menjadi keniscayaan. Apa pengaruhnya dan apa insight dari ICT, semoga Anda dapatkan dengan membaca buku ini.

Pneumatic, hydraulic and allied instrumentation schemes have given way to electronic schemes in recent years thanks to the rapid strides in electronics and allied areas. Principles, design and applications of such state-of-the-art instrumentation schemes form the subject matter of this book. Through representative examples,

the basic building blocks of instrumentation schemes are identified and each of these building blocks discussed in terms of its design and interface characteristics. The common generic schemes synthesized with such building blocks are dealt with subsequently. This forms the scope of Part I. The focus in Part II is on application. Displacement and allied instrumentation, force and allied instrumentation and process instrumentation in terms of temperature, flow, pressure level and other common process variables are dealt with separately and exhaustively. Despite the diversity in the sensor principles and characteristics and the variety in the applications and their environments, it is possible judiciously to carve out broad areas of application for each type of sensor and the instrumentation built around it. The last chapter categorises instrumentation schemes according to their different levels of complexity. Specific practical examples - especially at involved complexity levels - are discussed in detail.

The significantly expanded and updated new edition of a widely used text on reinforcement learning, one of the most active research areas in artificial intelligence. Reinforcement learning, one of the most active research areas in artificial intelligence, is a computational approach to learning whereby an agent tries to maximize the total amount of reward it receives while interacting with a complex, uncertain environment. In Reinforcement Learning, Richard Sutton and Andrew Barto provide a clear and simple account of the field's key ideas and algorithms. This second edition has been significantly expanded and updated, presenting new topics and updating coverage of other topics. Like the first edition, this second edition focuses on core online learning algorithms, with the more mathematical material set off in shaded boxes. Part I covers as much of reinforcement learning as possible without going beyond the tabular case for which exact solutions can be found. Many algorithms presented in this part are new to the second edition, including UCB, Expected Sarsa, and Double Learning. Part II extends these ideas to function approximation, with new sections on such topics as artificial neural networks and the Fourier basis, and offers expanded treatment of off-policy learning and policy-gradient methods. Part III has new chapters on reinforcement learning's relationships to psychology and neuroscience, as well as an updated case-studies chapter including AlphaGo and AlphaGo Zero, Atari game playing, and IBM Watson's wagering strategy. The final chapter discusses the future societal impacts of reinforcement learning.

Ensaio sobre os perigos e fascínios da tecnologia e da revolução digital em curso. A revolução digital a que assistimos não se resume à digitalização e automatização de processos das organizações para astornar mais eficazes e eficientes. Não se resume ao aumento da produtividade pessoal. Essa foi apenas a ponta do iceberg. Agora, com os dados que todos os dias são gerados, com a capacidade de cálculo de que dispomos, com a interconexão, com os dispositivos móveis, com os novos modelos de computação e metodologias de desenvolvimento de aplicações, com a inteligência artificial, agora sim, a transformação digital começa a ser exponencial. Agora quase tudo é possível!

"Hyman George Rickover (1900-1986), born Chaim Godalia Rykover in the Polish shtetl of Maków-Mazowiecki in czarist Russia at the dawn of the 20th century, was an almost mythical figure in the United States Navy. A man of ferocious will, engineering brilliance, combative personality, and indefatigable work ethic, he personally oversaw the development of nuclear marine propulsion. During his thirty-five years as chief of Nuclear Reactors, Rickover abolished rank and uniform, insisting that "there is no hierarchy in matters of the mind." His disdain for naval regulations, indifference to the chain of command, and harsh, insulting language earned him enemies in the Navy, but his record of safety was unparalleled. From the launch of the U.S.S. Nautilus in 1954 to today, the U.S. nuclear Navy has never experienced an incident resulting in uncontrolled radiation release. Rickover oversaw numerous shipyards, nuclear laboratories, and a nuclear power school where he personally selected 5,000 officers for nuclear power training. Beyond Nuclear Reactors, Rickover drove a wholesale transformation of the faculty and curriculum at the U.S. Naval Academy, with academic ability and achievement in technical and scientific disciplines displacing traditional prerequisites for military leadership. Rickover's transformation of the United States Navy almost never took place. From his entrance into the U.S. Naval Academy in 1918, the service constantly tried to shake itself free of him - he persevered against anti-Semitism, promotion denials, and even a requirement to retire. Wortman explores the constant conflict Rickover faced and created, tracing how he ultimately ascended to the rank of four-star Admiral and revolutionized the Navy"--

The fundamentals and implementation of digital electronics are essential to understanding the design and working of consumer/industrial electronics, communica-

tions, embedded systems, computers, security and military equipment. Devices used in applications such as these are constantly decreasing in size and employing more complex technology. It is therefore essential for engineers and students to understand the fundamentals, implementation and application principles of digital electronics, devices and integrated circuits. This is so that they can use the most appropriate and effective technique to suit their technical need. This book provides practical and comprehensive coverage of digital electronics, bringing together information on fundamental theory, operational aspects and potential applications. With worked problems, examples, and review questions for each chapter, Digital Electronics includes: information on number systems, binary codes, digital arithmetic, logic gates and families, and Boolean algebra; an in-depth look at multiplexers, demultiplexers, devices for arithmetic operations, flip-flops and related devices, counters and registers, and data conversion circuits; up-to-date coverage of recent application fields, such as programmable logic devices, microprocessors, microcontrollers, digital troubleshooting and digital instrumentation. A comprehensive, must-read book on digital electronics for senior undergraduate and graduate students of electrical, electronics and computer engineering, and a valuable reference book for professionals and researchers.

Mathematics of Computing -- General.

Manufacturing 4.0 The Use of Emergent Technologies in Manufacturing This book provides a comprehensive framework to understand and use Industry 4.0 emergent technologies in manufacturing for the hands-on engineers. It details the contribution of Lean and Manufacturing 4.0 to reduce and handle the increasing complexity experienced in the production floor. In addition, it classifies manufacturing under three attributes describing the way each of them modify it: Digital, Automated, and Additive. Each of these modifiers is presented as a chapter with a strategy, a detail description of the set of tools around them, and examples to make it easy to understand for the reader. The hype of industry 4.0 and its derivative technologies inevitably creates new business models but it also significantly impacts key process indicators. The integration, and exploitation of a subset of Industry 4.0 technologies is baptized as manufacturing 4.0 in this book. The book also outlines a manufacturing 4.0 implementation Strategy as part of the continuous improvement journey to assess, outline solutions, evaluate the benefit and risk, review with stakeholders, and create a portfolio. A roadmap provides

a guideline together with all the explanations of the different technology applications in order to use it as a reference. The goal is for you to apply these technology enablers on the right problems to benefit your organization. Table of contents Written by experts, Digital Terrain Modeling: Principles and Methodology provides comprehensive coverage of recent developments in the field. The topics include terrain analysis, sampling strategy, acquisition methodology, surface modeling principles, triangulation algorithms, interpolation techniques, on-line and off-line quality control in data a This book presents current developments	in smart city research and application regarding the management of manufacturing systems, Industry 4.0, transportation, and business management. It suggests approaches to incorporating smart city innovations into manufacturing systems, with an eye towards competitiveness in a global environment. The same pro-innovative approach is then applied to business and cooperation management. The authors also present smart city transportation solutions including vehicle data processing/reporting system, mobile application for fleet managers, bus drivers, bus passengers and special applications for smart city buses like passenger counting system, IP cameras, GPS system etc. The goal of the book	is to establish channels of communication and disseminate knowledge among researchers and professionals working on smart city research and application. Features contributions on a variety of topics related to smart cities from global researchers and professionals in a wide range of sectors; Presents topics relating to smart cities such as manufacturing, business, and transportation; Includes expanded selected papers from EAI International Conference on Management of Manufacturing Systems (MMS 2016), EAI Industry of Things and Future Technologies Conference – Mobility IoT 2016 and International Conference on Smart Electric Vehicles and Vehicular Ad-hoc NETworks (SEVNET).
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