

Bionics By Examples 250 Scenarios From Classical To Modern Times

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Robotics in Germany and Japan - Michael Funk 2014-04-03

Germany and Japan are two of the worldwide leading countries in robotics research. Robotics as a key technology introduces technical as well as philosophical and cultural challenges. How can we use robots that have a human-like appearance in everyday life? Are there limits to technology? What are the cultural similarities and differences between Germany and Japan? These are some of the questions which are discussed in the book. Five chapters comprehend an intercultural and interdisciplinary framework including current research fields like Roboethics, Hermeneutics of Technologies, Technology Assessment, Robotics in Japanese Popular Culture and Music Robots. Contributions on cultural interrelations, technical visions and essays round out the content of this book.

Ingenious Principles of Nature - E. W. Udo Küppers 2022-10-26

This volume focuses on practical applications of the principles that can be transferred from nature to our design space. It is thereby supported by the regulation and control systems as described by the science of cybernetics.

Biomimetics - Yoseph Bar-Cohen 2006

Jurassic Park - Michael Crichton 2012-09-25

#1 NEW YORK TIMES BESTSELLER • From the author of *Timeline*, *Sphere*, and *Congo*, this is the classic thriller of science run amok that took the world by storm. Nominated as one of America's best-loved novels by PBS's *The Great American Read* "[Michael] Crichton's dinosaurs are genuinely frightening."—Chicago Sun-Times An astonishing technique for recovering and cloning dinosaur DNA has been discovered. Now humankind's most thrilling fantasies have come true. Creatures extinct for eons roam Jurassic Park with their awesome presence and profound mystery, and all the world can visit them—for a price. Until something goes wrong. . . . In *Jurassic Park*, Michael Crichton taps all his mesmerizing talent and scientific brilliance to create his most electrifying technothriller. Praise for *Jurassic Park* "Wonderful . . . powerful."—The Washington Post Book World "Frighteningly real . . . compelling . . . It'll keep you riveted."—The Detroit News "Full of suspense."—The New York Times Book Review

Biomimetics -- Materials, Structures and Processes - Petra Gruber 2011-07-06

The book presents an outline of current activities in the field of biomimetics and integrates a variety of applications comprising biophysics, surface sciences, architecture and medicine. Biomimetics as innovation method is characterised by interdisciplinary information transfer from the life sciences to technical application fields aiming at increased performance, functionality and energy efficiency. The contributions of the book relate to the research areas: - Materials and structures in nanotechnology and biomaterials - Biomimetic approaches to develop new forms, construction principles and design methods in architecture - Information and dynamics in automation, neuroinformatics and biomechanics Readers will be informed about the latest research approaches and results in biomimetics with examples ranging from bionic nano-membranes to function-targeted design of tribological surfaces and the translation of natural auditory coding strategies.

The Mind of a Mnemonist - A. R. Luria 1987

The Mind of a Mnemonist is a rare phenomenon—a scientific study that transcends its data and, in the manner of the best fictional literature, fashions a portrait of an unforgettable human being.

Biomimetics for Architecture & Design - Göran Pohl 2015-10-30

This book provides the readers with a timely guide to the application of biomimetic principles in architecture and engineering design. As a result of a combined effort by two internationally recognized authorities, the biologist Werner Nachtigall and the architect Göran Pohl, the book describes the principles which can be used to compare nature and technology, and at the same time it presents detailed explanations and examples showing how biology can be used as a source of inspiration and "translated" in building and architectural solutions (biomimicry). Even though nature cannot be directly copied, the living world can provide architects and engineers with a wealth of analogues and inspirations for their own creative designs. But how can analysis of natural entities give rise to advanced and sustainable design? By reporting on the latest bionic design methods and using extensive artwork, the book guides readers through the field of nature-inspired architecture, offering an extraordinary resource for professional architects, engineers, designers and urban planners, as well as for university teachers, researchers and students. Natural evolution is seen throughout the book as a powerful resource that can serve architecture and design by providing innovative, optimal and sustainable solutions.

An Introduction to Ethics in Robotics and AI - Christoph Bartneck 2020

This open access book introduces the reader to the foundations of AI and ethics. It discusses issues of trust, responsibility, liability, privacy and risk. It focuses on the interaction between people and the AI systems and Robotics they use. Designed to be accessible for a broad audience, reading this book does not require prerequisite technical, legal or philosophical expertise. Throughout, the authors use examples to illustrate the issues at hand and conclude the book with a discussion on the application areas of AI and Robotics, in particular autonomous vehicles, automatic weapon systems and biased algorithms. A list of questions and further readings is also included for students willing to explore the topic further.

Programming Game AI by Example - Mat Buckland 2005

Provides an introduction to AI game techniques used in game programming.

Engineering Differential Equations - Bill Goodwine 2010-11-11

This book is a comprehensive treatment of engineering undergraduate differential equations as well as linear vibrations and feedback control. While this material has traditionally been separated into different courses in undergraduate engineering curricula. This text provides a streamlined and efficient treatment of material normally covered in three courses. Ultimately, engineering students study mathematics in order to be able to solve problems within the engineering realm. *Engineering Differential Equations: Theory and Applications* guides students to approach the mathematical theory with much greater interest and enthusiasm by teaching the theory together with applications. Additionally, it includes an abundance of detailed examples. Appendices include numerous C and FORTRAN example programs. This book is intended for engineering undergraduate students, particularly aerospace and mechanical engineers and students in other disciplines concerned with mechanical systems analysis and control. Prerequisites include basic and advanced calculus with an introduction to linear algebra.

Bionics by Examples - Werner Nachtigall 2016-08-23

Bionics means learning from the nature for the development of technology. The science of "bionics" itself is classified into several sections, from materials and structures over procedures and processes until evolution and optimization. Not all these areas, or only a few, are really known in the public and also in scientific

literature. This includes the Lotus-effect, converted to the contamination-reduction of facades and the shark-shed-effect, converted to the resistance-reduction of airplanes. However, there are hundreds of highly interesting examples that contain the transformation of principles of the nature into technology. From the large number of these examples, 250 were selected for the present book according to "prehistory", "early-history", "classic" and "modern time". Most examples are new. Every example includes a printed page in a homogeneous arrangement. The examples from the field "modern time" are joint in blocks corresponding to the sub-disciplines of bionics.

Biomimetics for Architecture - Jan Knippers 2019-06-17

Nature has always been a source of inspiration for the design of the human environment. The analysis of biological constructions can not only lead to astonishing technical solutions but can also inspire the design of architecture. Bionics is a fascinating border area between pure research and practical application: biologists, chemists, physicists, mineralogists, and paleontologists meet up with material scientists, engineers, and architects and transfer their knowledge to architecture and construction. Using numerous practical examples, this richly illustrated introduction traces the process from the understanding of how something functions, to abstraction—for example in computer models—and the construction of initial prototypes, through to fully functional manufacture and production.

Bionics by Examples - Werner Nachtigall 2014-09-25

Bionics means learning from the nature for the development of technology. The science of "bionics" itself is classified into several sections, from materials and structures over procedures and processes until evolution and optimization. Not all these areas, or only a few, are really known in the public and also in scientific literature. This includes the Lotus-effect, converted to the contamination-reduction of facades and the shark-shed-effect, converted to the resistance-reduction of airplanes. However, there are hundreds of highly interesting examples that contain the transformation of principles of the nature into technology. From the large number of these examples, 250 were selected for the present book according to "prehistory", "early-history", "classic" and "modern time". Most examples are new. Every example includes a printed page in a homogeneous arrangement. The examples from the field "modern time" are joint in blocks corresponding to the sub-disciplines of bionics.

The Advocate - 2004-09-14

The Advocate is a lesbian, gay, bisexual, transgender (LGBT) monthly newsmagazine. Established in 1967, it is the oldest continuing LGBT publication in the United States.

Human Enhancement Technologies and Our Merger with Machines - Woodrow Barfield 2021-06-15

A cross-disciplinary approach is offered to consider the challenge of emerging technologies designed to enhance human bodies and minds. Perspectives from philosophy, ethics, law, and policy are applied to a wide variety of enhancements, including integration of technology within human bodies, as well as genetic, biological, and pharmacological modifications. Humans may be permanently or temporarily enhanced with artificial parts by manipulating (or reprogramming) human DNA and through other enhancement techniques (and combinations thereof). We are on the cusp of significantly modifying (and perhaps improving) the human ecosystem. This evolution necessitates a continuing effort to re-evaluate current laws and, if appropriate, to modify such laws or develop new laws that address enhancement technology. A legal, ethical, and policy response to current and future human enhancements should strive to protect the rights of all involved and to recognize the responsibilities of humans to other conscious and living beings, regardless of what they look like or what abilities they have (or lack). A potential ethical approach is outlined in which rights and responsibilities should be respected even if enhanced humans are perceived by non-enhanced (or less-enhanced) humans as "no longer human" at all.

An Introduction to Biomechanics - Jay D. Humphrey 2013-11-11

Designed to meet the needs of undergraduate students, "Introduction to Biomechanics" takes the fresh approach of combining the viewpoints of both a well-respected teacher and a successful student. With an eye toward practicality without loss of depth of instruction, this book seeks to explain the fundamental concepts of biomechanics. With the accompanying web site providing models, sample problems, review questions and more, Introduction to Biomechanics provides students with the full range of instructional material for this complex and dynamic field.

How I Became a Quant - Richard R. Lindsey 2011-01-11

Praise for How I Became a Quant "Led by two top-notch quants, Richard R. Lindsey and Barry Schachter, How I Became a Quant details the quirky world of quantitative analysis through stories told by some of today's most successful quants. For anyone who might have thought otherwise, there are engaging personalities behind all that number crunching!" --Ira Kawaller, Kawaller & Co. and the Kawaller Fund "A fun and fascinating read. This book tells the story of how academics, physicists, mathematicians, and other scientists became professional investors managing billions." --David A. Krell, President and CEO, International Securities Exchange "How I Became a Quant should be must reading for all students with a quantitative aptitude. It provides fascinating examples of the dynamic career opportunities potentially open to anyone with the skills and passion for quantitative analysis." --Roy D. Henriksson, Chief Investment Officer, Advanced Portfolio Management "Quants"--those who design and implement mathematical models for the pricing of derivatives, assessment of risk, or prediction of market movements--are the backbone of today's investment industry. As the greater volatility of current financial markets has driven investors to seek shelter from increasing uncertainty, the quant revolution has given people the opportunity to avoid unwanted financial risk by literally trading it away, or more specifically, paying someone else to take on the unwanted risk. How I Became a Quant reveals the faces behind the quant revolution, offering you?the?chance to learn firsthand what it's like to be a?quant today. In this fascinating collection of Wall Street war stories, more than two dozen quants detail their roots, roles, and contributions, explaining what they do and how they do it, as well as outlining the sometimes unexpected paths they have followed from the halls of academia to the front lines of an investment revolution.

Handbook of Modern Sensors - Jacob Fraden 2006-04-29

Seven years have passed since the publication of the previous edition of this book. During that time, sensor technologies have made a remarkable leap forward. The sensitivity of the sensors became higher, the dimensions became smaller, the sensitivity became better, and the prices became lower. What have not changed are the fundamental principles of the sensor design. They are still governed by the laws of Nature. Arguably one of the greatest geniuses who ever lived, Leonardo Da Vinci, had his own peculiar way of praying. He was saying, "Oh Lord, thanks for Thou do not violate your own laws. " It is comforting indeed that the laws of Nature do not change as time goes by; it is just our appreciation of them that is being re?ned. Thus, this new edition examines the same good old laws of Nature that are employed in the designs of various sensors. This has not changed much since the previous edition. Yet, the sections that describe the practical designs are revised substantially. Recent ideas and developments have been added, and less important and nonessential designs were dropped. Probably the most dramatic recent progress in the sensor technologies relates to wide use of MEMS and MEOMS (micro-electro-mechanical systems and micro-electro-opto-mechanical systems). These are examined in this new edition with greater detail. This book is about devices commonly called sensors. The invention of a - croprocessor has brought highly sophisticated instruments into our everyday lives.

Springer Handbook of Automation - Shimon Y. Nof 2009-07-16

This handbook incorporates new developments in automation. It also presents a widespread and well-structured conglomeration of new emerging application areas, such as medical systems and health, transportation, security and maintenance, service, construction and retail as well as production or logistics. The handbook is not only an ideal resource for automation experts but also for people new to this expanding field.

Would You Kill the Fat Man? - David Edmonds 2013-10-06

A runaway train is racing toward five men who are tied to the track. Unless the train is stopped, it will inevitably kill all five men. You are standing on a footbridge looking down on the unfolding disaster. However, a fat man, a stranger, is standing next to you: if you push him off the bridge, he will topple onto the line and, although he will die, his chunky body will stop the train, saving five lives. Would you kill the fat man? The question may seem bizarre. But it's one variation of a puzzle that has baffled moral philosophers for almost half a century and that more recently has come to preoccupy neuroscientists, psychologists, and other thinkers as well. In this book, David Edmonds, coauthor of the best-selling Wittgenstein's Poker, tells the riveting story of why and how philosophers have struggled with this ethical dilemma, sometimes called

the trolley problem. In the process, he provides an entertaining and informative tour through the history of moral philosophy. Most people feel it's wrong to kill the fat man. But why? After all, in taking one life you could save five. As Edmonds shows, answering the question is far more complex--and important--than it first appears. In fact, how we answer it tells us a great deal about right and wrong.

Using Trends and Scenarios as Tools for Strategy Development - Ulf Pillkahn 2008-09-26

Is my enterprise really prepared for future business? What can I do to become more competitive? Ulf Pillkahn's book is directed at all of those seeking answers to these questions: executives in strategic positions, business analysts, consultants, trend scouts, marketing and product managers and research engineers. The book presents the two most powerful tools for future planning: environmental analysis, based on the use of trends, as well as the development of visions of the future through the use of scenarios. While scenarios are generally regarded as a classical management tool, it is expected that the importance of trends will gain tremendously in the coming years. Pillkahn demonstrates how to build robust strategies by aligning the results of environmental and enterprise scenarios, thereby offering entirely new insights. "Using Trends and Scenarios as Tools for Strategy Development" convincingly illustrates why efficient observation of the environment of an enterprise is an absolutely essential factor for strategy development, and why strategy development only works if it is institutionalized as a permanent enterprise process. It also addresses the issue of what information is needed to keep both processes running. The book further describes how trends can be categorized, and offers advice on how to glean the essential information from the vast variety of trends. Information is provided on how scenarios are used as a holistic instrument for creating visions and pictures of the future, and how the results of trend research and scenario techniques find their way into entrepreneurial strategy development. An optimized strategy development process is also outlined. Practical examples and real-life pictures of the future round off Pillkahn's insightful discussion of future business planning.

The Language of Living Matter - Bernd-Olaf Küppers 2022-06-01

This book, by an eminent scientist and philosopher, provides strong evidence for the claim that language is a general principle of Nature, rooted exclusively in physical and chemical laws. The author's radical idea inevitably leads us to view the essence, origin and evolution of life in a completely new light. It shifts the coordinates of our scientific world-view in favor of an overarching concept of language that is able to bridge the gap between matter and mind. At the same time, it removes a blind spot in the Darwinian concept of evolution. To justify this far-reaching idea, the book takes a long and deep look at our scientific and philosophical thinking, at language as such, at science's claim to truth, and at its methods, unity, limits and perspectives. These are the cornerstones structuring the book into six thematically self-contained chapters, rounded off by an epilogue that introduces the new topic of Nature's semantics. The range of issues covered is a testimony to how progress in the life sciences is transforming the whole edifice of science, from physics to biology and beyond. The book is aimed at a broad academic and general readership; it requires no mathematical expertise.

[Transforming the Future \(Open Access\)](#) - Riel Miller 2018-04-27

People are using the future to search for better ways to achieve sustainability, inclusiveness, prosperity, well-being and peace. In addition, the way the future is understood and used is changing in almost all domains, from social science to daily life. This book presents the results of significant research undertaken by UNESCO with a number of partners to detect and define the theory and practice of anticipation around the world today. It uses the concept of 'Futures Literacy' as a tool to define the understanding of anticipatory systems and processes – also known as the Discipline of Anticipation. This innovative title explores:

- new topics such as Futures Literacy and the Discipline of Anticipation;
- the evidence collected from over 30 Futures Literacy Laboratories and presented in 14 full case studies;
- the need and opportunity for significant innovation in human decision-making systems.

This book will be of great interest to scholars, researchers, policy-makers and students, as well as activists working on sustainability issues and innovation, future studies and anticipation studies. The Open Access version of this book, available at <https://www.taylorfrancis.com/books/e/9781351047999>, has been made available under a Attribution-NonCommercial-NoDerivs 3.0 IGO (CC-BY-NC-ND 3.0 IGO) license.

Additive Manufacturing - Amit Bandyopadhyay 2015-09-08

The field of additive manufacturing has seen explosive growth in recent years due largely in part to renewed interest from the manufacturing sector. Conceptually, additive manufacturing, or industrial 3D printing, is a way to build parts without using any part-specific tooling or dies from the computer-aided design (CAD) file of the part. Today, mo

Computer Age Statistical Inference - Bradley Efron 2016-07-20

The twenty-first century has seen a breathtaking expansion of statistical methodology, both in scope and in influence. 'Big data', 'data science', and 'machine learning' have become familiar terms in the news, as statistical methods are brought to bear upon the enormous data sets of modern science and commerce. How did we get here? And where are we going? This book takes us on an exhilarating journey through the revolution in data analysis following the introduction of electronic computation in the 1950s. Beginning with classical inferential theories - Bayesian, frequentist, Fisherian - individual chapters take up a series of influential topics: survival analysis, logistic regression, empirical Bayes, the jackknife and bootstrap, random forests, neural networks, Markov chain Monte Carlo, inference after model selection, and dozens more. The distinctly modern approach integrates methodology and algorithms with statistical inference. The book ends with speculation on the future direction of statistics and data science.

Freud and Beyond - Stephen A. Mitchell 2016-05-10

The classic, in-depth history of psychoanalysis, presenting over a hundred years of thought and theories Sigmund Freud's concepts have become a part of our psychological vocabulary: unconscious thoughts and feelings, conflict, the meaning of dreams, the sensuality of childhood. But psychoanalytic thinking has undergone an enormous expansion and transformation since Freud's death in 1939. With *Freud and Beyond*, Stephen A. Mitchell and Margaret J. Black make the full scope of twentieth century psychoanalytic thinking-from Harry Stack Sullivan to Jacques Lacan; D.W. Winnicott to Melanie Klein-available for the first time. Richly illustrated with case examples, this lively, jargon-free introduction makes modern psychoanalytic thought accessible at last.

Aquatic Monocotyledons of North America - Donald H. Les 2020-05-10

This book brings together information on the natural history, ecology and systematics of North American aquatic monocotyledons. The book is an overview of the biology of major aquatic species by compiling information from numerous sources that lie scattered among the primary literature, herbarium databases, and other reference sources. Information on more than 300 species in 87 genera of monocotyledons will be included. Recent phylogenetic analyses will be incorporated. Although focusing specifically on North America, the cosmopolitan distribution of many aquatic plants should make this an attractive text to people working virtually anywhere outside of the region as well. Key Selling Features: The primary source of natural history information on aquatic plants Comprehensive lists of ecological associates Synthetic overview of systematic relationships of aquatic species and genera Practical information for rare and invasive plant managers Essential guide to facilitate wetland delineation

Exact and Heuristic Scheduling Algorithms - Frank Werner 2020-03-18

This edited book presents new results in the area of the development of exact and heuristic scheduling algorithms. It contains eight articles accepted for publication for a Special Issue in the journal Algorithms. The book presents new algorithms, e.g., for flow shop, job shop, and parallel machine scheduling problems. The particular articles address subjects such as a heuristic for the routing and scheduling problem with time windows, applied to the automotive industry in Mexico, a heuristic for the blocking job shop problem with tardiness minimization based on new neighborhood structures, fast heuristics for the Euclidean traveling salesman problem or a new mathematical model for the period-aggregated resource leveling problem with variable job duration, and several others.

Modern Robotics - Kevin M. Lynch 2017-05-25

This introduction to robotics offers a distinct and unified perspective of the mechanics, planning and control of robots. Ideal for self-learning, or for courses, as it assumes only freshman-level physics, ordinary differential equations, linear algebra and a little bit of computing background. Modern Robotics presents the state-of-the-art, screw-theoretic techniques capturing the most salient physical features of a robot in an intuitive geometrical way. With numerous exercises at the end of each chapter, accompanying software written to reinforce the concepts in the book and video lectures aimed at changing the classroom

experience, this is the go-to textbook for learning about this fascinating subject.

A Practical Guide to Bio-inspired Design - Helena Hashemi Farzaneh 2018-07-12

Bio-inspired design (also called biomimetics or biomimicry) is a promising approach for the development of innovative technical products – not only in mechanical engineering, but also in areas such as material science and even computer engineering. Innovations such as humanoid robots or multifunctional materials have shown the potential of bio-inspired design. However, in industrial companies, bio-inspired design remains an “exotic” approach which is rarely used in innovation practice. One reason for this is a lack of knowledge on how to implement bio-inspired design in practice. Therefore, this guide book was written to explain the application of bio-inspired design methods and tools. The target groups are professional engineers and biologists, as well as students of both disciplines. The book presents a selection of methods for specific activities in bio-inspired design, namely: planning a bio-inspired design project, abstraction, search, analysis and comparison, and transfer of analogies. Factsheets give an overview of each method, its advantages and challenges, and its suitability for different bio-inspired design approaches and scenarios. To facilitate understanding, all methods are explained with the help of the same example. In addition, ten best practice examples show the practical applicability of bio-inspired design.

Biomimetics in Architecture - Petra Gruber 2011-02-24

The purpose of investigating the overlaps between architecture and biology is neither to draw borders or make further distinctions nor to declare architecture alive, but to clarify what is currently happening in the blurred fields, and to investigate the emerging discipline of „biomimetics in architecture“

[Architekturbionik]. An overview of the present state of research in the relatively young scientific field of biomimetics shows the potential of the approach. The new discipline aims at innovation by making use of the subtle systems and solutions in nature having evolved within millions of years. Approaches that have been taken to transfer nature's principles to architecture have provided successful developments. The new approach presented in this book transfers the abstract concept of life onto built environment. Strategic search for life's criteria in architecture delivers a new view of architectural achievements and makes the innovative potential visible, which has not been exploited yet. A selection of case studies illustrates the diversity of starting points: from vernacular architecture to space exploration.

Converging Technologies for Improving Human Performance - Mihail C. Roco 2013-04-17

M. C. Roco and W.S. Bainbridge In the early decades of the 21st century, concentrated efforts can unify science based on the unity of nature, thereby advancing the combination of nanotechnology, biotechnology, information technology, and new technologies based in cognitive science. With proper attention to ethical issues and societal needs, converging in human abilities, societal technologies could achieve a tremendous improvement outcomes, the nation's productivity, and the quality of life. This is a broad, cross cutting, emerging and timely opportunity of interest to individuals, society and humanity in the long term. The phrase "convergent technologies" refers to the synergistic combination of four major "NBIC" (nano-bio-info-cogno) provinces of science and technology, each of which is currently progressing at a rapid rate: (a) nanoscience and nanotechnology; (b) biotechnology and biomedicine, including genetic engineering; (c) information technology, including advanced computing and communications; (d) cognitive science, including cognitive neuroscience. Timely and Broad Opportunity. Convergence of diverse technologies is based on material unity at the nanoscale and on technology integration from that scale.

Something Borrowed - Emily Giffin 2010-04-01

Something Borrowed Emily Giffin The smash-hit debut novel for every woman who has ever had a complicated love-hate friendship. Rachel White is the consummate good girl. A hard-working attorney at a large Manhattan law firm and a diligent maid of honor to her charmed best friend Darcy, Rachel has always played by all the rules. Since grade school, she has watched Darcy shine, quietly accepting the sidekick role in their lopsided friendship. But that suddenly changes the night of her thirtieth birthday when Rachel finally confesses her feelings to Darcy's fiance, and is both horrified and thrilled to discover that he feels the same way. As the wedding date draws near, events spiral out of control, and Rachel knows she must make a choice between her heart and conscience. In so doing, she discovers that the lines between right and wrong can be blurry, endings aren't always neat, and sometimes you have to risk everything to be true to yourself.

La naturaleza del embalaje - Sergio F. Grijalva 2018-03-01

La naturaleza como fuente de innovación para empaques. Explorar la naturaleza del embalaje significa observar de cerca cómo la vida envuelve, protege, contiene, preserva e incluso transporta y comunica sus palpitantes creaciones, con la intención de descubrir de qué manera ha resuelto los problemas y aciertos que enfrenta el diseño industrial de embalajes: ¿qué geometrías permiten aprovechar mejor el espacio y el material? ¿Qué lecciones encierran los huevos de gallina o las conchas de los moluscos a propósito de protección a impactos? ¿Qué nos enseñan las envolturas de productos vegetales como las cebollas o las mazorcas de maíz acerca de la conservación de la hidratación? O bien, ¿qué podemos aprender del hecho de que en la naturaleza no exista el desperdicio, pues todos sus diseños son íntegramente biodegradables y vuelven a nutrir el ciclo del que proceden? Todas estas y muchas otras cuestiones afines son abordadas y respondidas en este libro, a lo largo de la envolvente inmersión en el mundo de los embalajes naturales que se despliega entre sus páginas: un exuberante recorrido a través de pieles, cáscaras, pétalos, cortezas, conchas, caparazones y muchos otros ejemplos de superficies organizadas, cuyo examen atento depara hallazgos sorprendentes e inspiradores que abren a su vez vías sugerentes e inexploradas para la innovación y el perfeccionamiento de los envases, envolturas y empaques diseñados por el hombre.

Merriam-Webster's Vocabulary Builder - Mary W. Cornog 1998

The ideal book for people who want to increase their word power. Thorough coverage of 1,200 words and 240 roots while introducing 2,300 words. The Vocabulary Builder is organized by Greek and Latin roots for effective study with nearly 250 new words and roots. Includes quizzes after each root discussion to test progress. A great study aid for students preparing to take standardized tests.

Bio-Inspired Innovation and National Security - National Defense University 2010-10-01

Despite the vital importance of the emerging area of biotechnology and its role in defense planning and policymaking, no definitive book has been written on the topic for the defense policymaker, the military student, and the private-sector bioscientist interested in the "emerging opportunities market" of national security. This edited volume is intended to help close this gap and provide the necessary backdrop for thinking strategically about biology in defense planning and policymaking. This volume is about applications of the biological sciences, here called "biologically inspired innovations," to the military. Rather than treating biology as a series of threats to be dealt with, such innovations generally approach the biological sciences as a set of opportunities for the military to gain strategic advantage over adversaries. These opportunities range from looking at everything from genes to brains, from enhancing human performance to creating renewable energy, from sensing the environment around us to harnessing its power.

Fundamentals of Digital Manufacturing Science - Zude Zhou 2011-10-22

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.

Bioinspired Structures and Design - Wole Soboyejo 2020-09-17

Master simple to advanced biomaterials and structures with this essential text. Featuring topics ranging from bionanoengineered materials to bio-inspired structures for spacecraft and bio-inspired robots, and covering issues such as motility, sensing, control and morphology, this highly illustrated text walks the reader through key scientific and practical engineering principles, discussing properties, applications and design. Presenting case studies for the design of materials and structures at the nano, micro, meso and macro-scales, and written by some of the leading experts on the subject, this is the ideal introduction to this

emerging field for students in engineering and science as well as researchers.

Tech Trends in Practice - Bernard Marr 2020-04-09

Discover how 25 powerful technology trends are transforming 21st century businesses How will the latest technologies transform your business? Future Tech Trends in Practice will give you the knowledge of today's most important technology trends, and how to take full advantage of them to grow your business. The book presents 25 real-world technology trends along with their potential contributions to organisational success. You'll learn how to integrate existing advancements and plan for those that are on the way. In this book, best-selling author, strategic business advisor, and respected futurist Bernard Marr explains the role of technology in providing innovative businesses solutions for companies of varying sizes and across different industries. He covers wide-ranging trends and provides an overview of how companies are using these new and emerging technologies in practice. You, too, can prepare your company for the potential and power of trending technology by examining these and other areas of innovation described in Future Tech Trends in Practice: Artificial intelligence, including machine and deep learning The Internet of Things and

the rise of smart devices Self-driving cars and autonomous drones 3D printing and additive manufacturing Blockchain technology Genomics and gene editing Augmented, virtual and mixed reality When you understand the technology trends that are driving success, now and into the future, you'll be better positioned to address and solve problems within your organisation.

The Ultimate Guide To Choosing a Medical Specialty - Brian Freeman 2004-01-09

The first medical specialty selection guide written by residents for students! Provides an inside look at the issues surrounding medical specialty selection, blending first-hand knowledge with useful facts and statistics, such as salary information, employment data, and match statistics. Focuses on all the major specialties and features firsthand portrayals of each by current residents. Also includes a guide to personality characteristics that are predominate with practitioners of each specialty. "A terrific mixture of objective information as well as factual data make this book an easy, informative, and interesting read." -- Review from a 4th year Medical Student