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Techniques for Coding Imagery and Multimedia Nov 16 2021 A variety of applications have been developed in order to engage with society. These tools have enabled computer scientists to capture large sets of unstructured data for machine learning and make the information widely available in academia. *Techniques for Coding Imagery and Multimedia: Emerging Research and Opportunities* is a pivotal reference source featuring the latest scholarly research on ways researchers code imagery and multimedia for research purposes, as well as describe some of the applied methods for research value. Including coverage on a wide variety of topics such as linguistic analysis, gender communication, and mass surveillance, this book is an important resource for researchers, academics, graduate students, and professionals seeking current research on best ways to globally expand multimedia research and imagery.

Science and Engineering Literature Jan 26 2020 A compilation of bibliographies, periodicals, technical reports, patents, proceedings, translations, dissertations, treatises, guides, handbooks, dictionaries, encyclopedias, atlases, biographies and directories on the following subjects: mathematics, astronomy, physics, chemistry, geoscience, environmental sciences, biology, biomedicine, engineering, the history of science and science literature and the science of librarianship.

The Materials Science of Thin Films Aug 01 2020 Prepared as a textbook complete with problems after each chapter, specifically intended for classroom use in universities.

Mechanical Engineer's Reference Book May 30 2020 *Mechanical Engineer's Reference Book*, 12th Edition is a 19-chapter text that covers the basic principles of mechanical engineering. The first chapters discuss the principles of mechanical engineering, electrical and electronics, microprocessors, instrumentation, and control. The succeeding chapters deal with the applications of computers and computer-integrated engineering systems; the design standards; and materials' properties and selection. Considerable chapters are devoted to other basic knowledge in mechanical engineering, including solid mechanics, tribology, power units and transmission, fuels and combustion, and alternative energy sources. The remaining chapters explore other engineering fields related to mechanical engineering, including nuclear, offshore, and plant engineering. These chapters also cover the topics of manufacturing methods, engineering mathematics, health and safety, and units of measurements. This book will be of great value to mechanical engineers.

Handbook of Research on Computational Intelligence for Engineering, Science, and Business Jun 23 2022 Using the same strategy for the needs of image

processing and pattern recognition, scientists and researchers have turned to computational intelligence for better research throughputs and end results applied towards engineering, science, business and financial applications. Handbook of Research on Computational Intelligence for Engineering, Science, and Business discusses the computation intelligence approaches, initiatives and applications in the engineering, science and business fields. This reference aims to highlight computational intelligence as no longer limited to computing-related disciplines and can be applied to any effort which handles complex and meaningful information.

Philosophy of Technology and Engineering Sciences Nov 04 2020 The Handbook Philosophy of Technology and Engineering Sciences addresses numerous issues in the emerging field of the philosophy of those sciences that are involved in the technological process of designing, developing and making of new technical artifacts and systems. These issues include the nature of design, of technological knowledge, and of technical artifacts, as well as the toolbox of engineers. Most of these have thus far not been analyzed in general philosophy of science, which has traditionally but inadequately regarded technology as mere applied science and focused on physics, biology, mathematics and the social sciences. • First comprehensive philosophical handbook on technology and the engineering sciences • Unparalleled in scope including explorative articles • In depth discussion of technical artifacts and their ontology • Provides extensive analysis of the nature of engineering design • Focuses in detail on the role of models in technology

Impacts of Faith-Based Decision Making on the Individual-Level Legislative Process: Emerging Research and Opportunities Feb 19 2022 Increased diversity and shifting social identities have created significant effects on contemporary legislative systems. These shifts have altered how legislative bodies conduct, implement, and pass various policies and bills. Impacts of Faith-Based Decision Making on the Individual-Level Legislative Process: Emerging Research and Opportunities is an innovative source of scholarly material on the religious influences of modern society on marital law. Including perspectives on topics such as same-sex marriage, religious values, and bill sponsorship, this book is ideally designed for researchers, academics, professionals, graduate students, and policy makers interested in the latest developments on legislative decision making.

Electrical Engineer's Reference Book Mar 20 2022 First published in 1945, this book maintains its original aims - to reflect the state-of-the-art in electrical science and technology, and to cater for the needs of practising engineers.

Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance Sep 21 2019 Over the last two decades, researchers are looking at imbalanced data learning as a prominent research area. Many critical real-world application areas like finance, health, network, news, online

advertisement, social network media, and weather have imbalanced data, which emphasizes the research necessity for real-time implications of precise fraud/default detection, rare disease/reaction prediction, network intrusion detection, fake news detection, fraud advertisement detection, cyber bullying identification, disaster events prediction, and more. Machine learning algorithms are based on the heuristic of equally-distributed balanced data and provide the biased result towards the majority data class, which is not acceptable considering imbalanced data is omnipresent in real-life scenarios and is forcing us to learn from imbalanced data for foolproof application design. Imbalanced data is multifaceted and demands a new perception using the novelty at sampling approach of data preprocessing, an active learning approach, and a cost perceptive approach to resolve data imbalance. *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance* offers new aspects for imbalanced data learning by providing the advancements of the traditional methods, with respect to big data, through case studies and research from experts in academia, engineering, and industry. The chapters provide theoretical frameworks and the latest empirical research findings that help to improve the understanding of the impact of imbalanced data and its resolving techniques based on data preprocessing, active learning, and cost perceptive approaches. This book is ideal for data scientists, data analysts, engineers, practitioners, researchers, academicians, and students looking for more information on imbalanced data characteristics and solutions using varied approaches.

Balancing Agile and Disciplined Engineering and Management Approaches for IT Services and Software Products Sep 02 2020 The highly dynamic world of information technology service management stresses the benefits of the quick and correct implementation of IT services. A disciplined approach relies on a separate set of assumptions and principles as an agile approach, both of which have complicated implementation processes as well as copious benefits. Combining these two approaches to enhance the effectiveness of each, while difficult, can yield exceptional dividends. *Balancing Agile and Disciplined Engineering and Management Approaches for IT Services and Software Products* is an essential publication that focuses on clarifying theoretical foundations of balanced design methods with conceptual frameworks and empirical cases. Highlighting a broad range of topics including business trends, IT service, and software development, this book is ideally designed for software engineers, software developers, programmers, information technology professionals, researchers, academicians, and students.

Free and Open Source Software in Modern Data Science and Business Intelligence: Emerging Research and Opportunities Oct 23 2019 Computer software and technologies are advancing at an amazing rate. The accessibility of these software sources allows for a wider power among common users as well as

rapid advancement in program development and operating information. Free and Open Source Software in Modern Data Science and Business Intelligence: Emerging Research and Opportunities is a critical scholarly resource that examines the differences between the two types of software, integral in the FOSS movement, and their effect on the distribution and use of software. Featuring coverage on a wide range of topics, such as FOSS Ecology, graph mining, and project tasks, this book is geared towards academicians, researchers, and students interested in current research on the growing importance of FOSS and its expanding reach in IT infrastructure.

Design Solutions for nZEB Retrofit Buildings Mar 28 2020 Construction projects, once they are completed, are intended to exist in the skylines of cities and towns for decades. Sustainable technologies seek to take these existing structures and make them environmentally friendly and energy efficient. Design Solutions for nZEB Retrofit Buildings is a critical scholarly resource that examines the importance of creating architecture that not only promotes the daily function of these buildings but is also environmentally sustainable. Featuring a broad range of topics including renewable energy sources, solar energy, and energy performance, this book is geared toward professionals, students, and researchers seeking current research on sustainable options for upgrading existing edifices to become more environmentally friendly.

Writing for Science and Engineering May 10 2021 Resumen: Are you a post-graduate student in Engineering, Science or Technology who needs to know how to: Prepare abstracts, theses and journal papers Present your work orally Present a progress report to your funding body Would you like some guidance aimed specifically at your subject area? ... This is the book for you; a practical guide to all aspects of post-graduate documentation for Engineering, Science and Technology students, which will prove indispensable to readers. Writing for Science and Engineering will prove invaluable in all areas of research and writing due its clear, concise style. The practical advice contained within the pages alongside numerous examples to aid learning will make the preparation of documentation much easier for all students.

Newnes Engineering and Physical Science Pocket Book Aug 25 2022 Newnes Engineering and Physical Science Pocket Book is an easy reference of engineering formulas, definitions, and general information. Part One deals with the definitions and formulas used in general engineering science, such as those concerning SI units, density, scalar and vector quantities, and standard quantity symbols and their units. Part Two pertains to electrical engineering science and includes basic d.c. circuit theory, d.c. circuit analysis, electromagnetism, and electrical measuring instruments. Part Three involves mechanical engineering and physical science. This part covers formulas on speed, velocity, acceleration, force, as well as definitions and discussions on waves, interference, diffraction, the effect of forces

on materials, hardness, and impact tests. Part Four focuses on chemistry — atoms, molecules, compounds and mixtures. This part examines the laws of chemical combination, relative atomic masses, molecular masses, the mole concept, and chemical bonding in element or compounds. This part also discusses organic chemistry (carbon based except oxides, metallic carbonates, metallic hydrogen carbonate, metallic carbonyls) and inorganic chemistry (non-carbon elements). This book is intended as a reference for students, technicians, scientists, and engineers in their studies or work in electrical engineering, mechanical engineering, chemistry, and general engineering science.

Advances in Computational Approaches in Biomechanics Jul 20 2019 With the advent of digital computers and rapidly developing computational techniques, computer simulations are widely used as predictive tools to supplement experimental techniques in engineering and technology. Computational biomechanics is a field where the movements of biological systems are assessed in the light of computer algorithms describing solid and fluid mechanical principles. This rapidly developing field must be constantly studied and updated as it continues to expand. *Advances in Computational Approaches in Biomechanics* examines the current trends and applications of intelligent computational techniques used to analyze a multitude of phenomena in the field of biomechanics and elaborates a series of sophisticated techniques used for computer simulation in solid mechanics, fluid mechanics, and fluid-solid interface. Covering a range of topics such as injury prevention, element analysis, and soft tissues, this publication is ideal for industry professionals, practitioners, researchers, academicians, instructors, and students.

Dictionary of Information Science and Technology Apr 28 2020 "The 2nd edition of the Dictionary of Information Science and Technology is an updated compilation of the latest terms and definitions, along with reference citations, as they pertain to all aspects of the information and technology field"--Provided by publisher.

Concise Rules of APA Style Jun 30 2020 This easy-to-use pocket guide, compiled from the sixth edition of the "Publication Manual of the American Psychological Association," provides complete guidance on the rules of style that are critical for clear communication.

Computational Methodologies for Electrical and Electronics Engineers Feb 25 2020 Artificial intelligence has been applied to many areas of science and technology, including the power and energy sector. Renewable energy in particular has experienced the tremendous positive impact of these developments. With the recent evolution of smart energy technologies, engineers and scientists working in this sector need an exhaustive source of current knowledge to effectively cater to the energy needs of citizens of developing countries. *Computational Methodologies for Electrical and Electronics Engineers* is a collection of

innovative research that provides a complete insight and overview of the application of intelligent computational techniques in power and energy. Featuring research on a wide range of topics such as artificial neural networks, smart grids, and soft computing, this book is ideally designed for programmers, engineers, technicians, ecologists, entrepreneurs, researchers, academicians, and students.

Newnes Engineering Science Pocket Book Sep 26 2022 Newnes Engineering Science Pocket Book provides a readily available reference to the essential engineering science formulae, definitions, and general information needed during studies and/or work situation. This book consists of three main topics— general engineering science, electrical engineering science, and mechanical engineering science. In these topics, this text specifically discusses the atomic structure of matter, standard quality symbols and units, chemical effects of electricity, and capacitors and capacitance. The alternating currents and voltages, three phase systems, D.C. machines, and A.C. motors are also elaborated. This compilation likewise covers the linear momentum and impulse, effects of forces on materials, and pressure in fluids. This publication is useful for technicians and engineers, as well as students studying for technician certificates and diplomas, GCSE, and A levels.

Optical Engineering Science May 22 2022 A practical guide for engineers and students that covers a wide range of optical design and optical metrology topics Optical Engineering Science offers a comprehensive and authoritative review of the science of optical engineering. The book bridges the gap between the basic theoretical principles of classical optics and the practical application of optics in the commercial world. Written by a noted expert in the field, the book examines a range of practical topics that are related to optical design, optical metrology and manufacturing. The book fills a void in the literature by covering all three topics in a single volume. Optical engineering science is at the foundation of the design of commercial optical systems, such as mobile phone cameras and digital cameras as well as highly sophisticated instruments for commercial and research applications. It spans the design, manufacture and testing of space or aerospace instrumentation to the optical sensor technology for environmental monitoring. Optics engineering science has a wide variety of applications, both commercial and research. This important book: Offers a comprehensive review of the topic of optical engineering Covers topics such as optical fibers, waveguides, aspheric surfaces, Zernike polynomials, polarisation, birefringence and more Targets engineering professionals and students Filled with illustrative examples and mathematical equations Written for professional practitioners, optical engineers, optical designers, optical systems engineers and students, Optical Engineering Science offers an authoritative guide that covers the broad range of optical design and optical metrology topics and their applications.

Emerging Innovations in Microwave and Antenna Engineering Jan 06 2021

Continuing advancements in electronics creates the possibility of communicating with more people at greater distances. Such an evolution calls for more efficient techniques and designs in radio communications. *Emerging Innovations in Microwave and Antenna Engineering* provides innovative insights into theoretical studies on propagation and microwave design of passive and active devices. The content within this publication is separated into three sections: the design of antennas, the design of the antennas for the RFID system, and the design of a new structure of microwave amplifier. Highlighting topics including additive manufacturing technology, design application, and performance characteristics, it is designed for engineers, electricians, researchers, students, and professionals, and covers topics centered on modern antenna and microwave circuits design and theory.

Guide to Information Sources in Engineering Jul 24 2022 The only source that focuses exclusively on engineering and technology, this important guide maps the dynamic and changing field of information sources published for engineers in recent years. Lord highlights basic perspectives, access tools, and English-language resources--directories, encyclopedias, yearbooks, dictionaries, databases, indexes, libraries, buyer's guides, Internet resources, and more. Substantial emphasis is placed on digital resources. The author also discusses how engineers and scientists use information, the culture and generation of scientific information, different types of engineering information, and the tools and resources you need to locate and access that material. Other sections describe regulations, standards and specifications, government resources, professional and trade associations, and education and career resources. Engineers, scientists, librarians, and other information professionals working with engineering and technology information will welcome this research

Software Engineering for Science Jun 11 2021 *Software Engineering for Science* provides an in-depth collection of peer-reviewed chapters that describe experiences with applying software engineering practices to the development of scientific software. It provides a better understanding of how software engineering is and should be practiced, and which software engineering practices are effective for scientific software. The book starts with a detailed overview of the Scientific Software Lifecycle, and a general overview of the scientific software development process. It highlights key issues commonly arising during scientific software development, as well as solutions to these problems. The second part of the book provides examples of the use of testing in scientific software development, including key issues and challenges. The chapters then describe solutions and case studies aimed at applying testing to scientific software development efforts. The final part of the book provides examples of applying software engineering techniques to scientific software, including not only computational modeling, but also software for data management and analysis. The authors describe their

experiences and lessons learned from developing complex scientific software in different domains. About the Editors Jeffrey Carver is an Associate Professor in the Department of Computer Science at the University of Alabama. He is one of the primary organizers of the workshop series on Software Engineering for Science (<http://www.SE4Science.org/workshops>). Neil P. Chue Hong is Director of the Software Sustainability Institute at the University of Edinburgh. His research interests include barriers and incentives in research software ecosystems and the role of software as a research object. George K. Thiruvathukal is Professor of Computer Science at Loyola University Chicago and Visiting Faculty at Argonne National Laboratory. His current research is focused on software metrics in open source mathematical and scientific software.

Handbook of Research on Smart Computing for Renewable Energy and Agro-Engineering Oct 03 2020 The rise in population and the concurrently growing consumption rate necessitates the evolution of agriculture to adopt current computational technologies to increase production at a faster and smoother scale. While existing technologies may help in crop processing, there is a need for studies that seek to understand how modern approaches like artificial intelligence, fuzzy logic, and hybrid algorithms can aid the agricultural process while utilizing energy sources efficiently. The Handbook of Research on Smart Computing for Renewable Energy and Agro-Engineering is an essential publication that examines the benefits and barriers of implementing computational models to agricultural production and energy sources as well as how these models can produce more cost-effective and sustainable solutions. Featuring coverage on a wide range of topics such as bacterial foraging, swarm intelligence, and combinatorial optimization, this book is ideally designed for agricultural engineers, farmers, municipal union leaders, computer scientists, information technologists, sustainable developers, managers, environmentalists, industry professionals, academicians, researchers, and students.

Design of Experiments for Chemical, Pharmaceutical, Food, and Industrial Applications Aug 21 2019 Statistics is a key characteristic that assists a wide variety of professions including business, government, and factual sciences. Companies need data calculation to make informed decisions that help maintain their relevance. Design of experiments (DOE) is a set of active techniques that provides a more efficient approach for industries to test their processes and form effective conclusions. Experimental design can be implemented into multiple professions, and it is a necessity to promote applicable research on this up-and-coming method. Design of Experiments for Chemical, Pharmaceutical, Food, and Industrial Applications is a pivotal reference source that seeks to increase the use of design of experiments to optimize and improve analytical methods and productive processes in order to use less resources and time. While highlighting topics such as multivariate methods, factorial experiments, and pharmaceutical

research, this publication is ideally designed for industrial designers, research scientists, chemical engineers, managers, academicians, and students seeking current research on advanced and multivariate statistics.

The Maritime Engineering Reference Book Apr 21 2022 The Maritime Engineering Reference Book is a one-stop source for engineers involved in marine engineering and naval architecture. In this essential reference, Anthony F. Molland has brought together the work of a number of the world's leading writers in the field to create an inclusive volume for a wide audience of marine engineers, naval architects and those involved in marine operations, insurance and other related fields. Coverage ranges from the basics to more advanced topics in ship design, construction and operation. All the key areas are covered, including ship flotation and stability, ship structures, propulsion, seakeeping and maneuvering. The marine environment and maritime safety are explored as well as new technologies, such as computer aided ship design and remotely operated vehicles (ROVs). Facts, figures and data from world-leading experts makes this an invaluable ready-reference for those involved in the field of maritime engineering. Professor A.F. Molland, BSc, MSc, PhD, CEng, FRINA. is Emeritus Professor of Ship Design at the University of Southampton, UK. He has lectured ship design and operation for many years. He has carried out extensive research and published widely on ship design and various aspects of ship hydrodynamics. * A comprehensive overview from best-selling authors including Bryan Barrass, Rawson and Tupper, and David Eyres * Covers basic and advanced material on marine engineering and Naval Architecture topics * Have key facts, figures and data to hand in one complete reference book

Using Technology Tools to Innovate Assessment, Reporting, and Teaching Practices in Engineering Education Mar 08 2021 Many can now conclude that utilizing educational technologies can be considered the primary tools to inspire students to learn. Combining these technologies with the best teaching and learning practices can engage in creativity and imagination in the engineering field. Using Technology Tools to Innovate Assessment, Reporting, and Teaching Practices in Engineering Education highlights the lack of understanding of teaching and learning with technology in higher education engineering programs while emphasizing the important use of this technology. This book aims to be essential for professors, graduate, and undergraduate students in the engineering programs interested learning the appropriate use of technological tools.

Women in Engineering, Science and Technology: Education and Career Challenges Sep 14 2021 "This book discusses increasing the participation of women in science, engineering and technology professions, educating the stakeholders - citizens, scholars, educators, managers and policy makers - how to be part of the solution"--Provided by publisher.

Developing Charging Infrastructure and Technologies for Electric Vehicles Jun 18 2019 The increase in air pollution and vehicular emissions has led to the

development of the renewable energy-based generation and electrification of transportation. Further, the electrification shift faces an enormous challenge due to limited driving range, long charging time, and high initial cost of deployment. Firstly, there has been a discussion on renewable energy such as how wind power and solar power can be generated by wind turbines and photovoltaics, respectively, while these are intermittent in nature. The combination of these renewable energy resources with available power generation system will make electric vehicle (EV) charging sustainable and viable after the payback period. Recently, there has also been a significant discussion focused on various EV charging types and the level of power for charging to minimize the charging time. By focusing on both sustainable and renewable energy, as well as charging infrastructures and technologies, the future for EV can be explored. Developing Charging Infrastructure and Technologies for Electric Vehicles reviews and discusses the state of the art in electric vehicle charging technologies, their applications, economic, environmental, and social impact, and integration with renewable energy. This book captures the state of the art in electric vehicle charging infrastructure deployment, their applications, architectures, and relevant technologies. In addition, this book identifies potential research directions and technologies that facilitate insights on EV charging in various charging places such as smart home charging, parking EV charging, and charging stations. This book will be essential for power system architects, mechanics, electrical engineers, practitioners, developers, practitioners, researchers, academicians, and students interested in the problems and solutions to the state-of-the-art status of electric vehicles.

Polymer Engineering Science and Viscoelasticity Oct 15 2021 This book provides a unified mechanics and materials perspective on polymers: both the mathematics of viscoelasticity theory as well as the physical mechanisms behind polymer deformation processes. Introductory material on fundamental mechanics is included to provide a continuous baseline for readers from all disciplines. Introductory material on the chemical and molecular basis of polymers is also included, which is essential to the understanding of the thermomechanical response. This self-contained text covers the viscoelastic characterization of polymers including constitutive modeling, experimental methods, thermal response, and stress and failure analysis. Example problems are provided within the text as well as at the end of each chapter. New to this edition: · One new chapter on the use of nano-material inclusions for structural polymer applications and applications such as fiber-reinforced polymers and adhesively bonded structures · Brings up-to-date polymer production and sales data and equipment and procedures for evaluating polymer characterization and classification · The work serves as a comprehensive reference for advanced seniors seeking graduate level courses, first and second year graduate students, and practicing engineers

Wind Science and Engineering Jan 18 2022 This book provides an essential

overview of wind science and engineering, taking readers on a journey through the origins, developments, fundamentals, recent advancements and latest trends in this broad field. Along the way, it addresses a diverse range of topics, including: atmospheric physics; meteorology; micrometeorology; climatology; the aerodynamics of buildings, aircraft, sailing boats, road vehicles and trains; wind energy; atmospheric pollution; soil erosion; snow drift, windbreaks and crops; bioclimatic city-planning and architecture; wind actions and effects on structures; and wind hazards, vulnerability and risk. In order to provide a comprehensive overview of wind and its manifold effects, the book combines scientific, descriptive and narrative chapters. The book is chiefly intended for students and lecturers, for those who want to learn about the genesis and evolution of this topic, and for the multitude of scholars whose work involves the wind.

Dynamic Stability of Hydraulic Gates and Engineering for Flood Prevention Dec 05 2020 Hydraulic gates are utilized in multiple capacities in modern society. As such, the failure of these gates can have disastrous consequences, and it is imperative to develop new methods to avoid these occurrences. Dynamic Stability of Hydraulic Gates and Engineering for Flood Prevention is a critical reference source containing scholarly research on engineering techniques and mechanisms to decrease the failure rate of hydraulic gates. Including a range of perspectives on topics such as fluid dynamics, vibration mechanisms, and flow stability, this book is ideally designed for researchers, academics, engineers, graduate students, and practitioners interested in the study of hydraulic gate structure.

Advanced Agro-Engineering Technologies for Rural Business Development

Apr 09 2021 Developing countries need access to the technological advancements of the modern world in order to apply these advancements to their small-scale operations. Applying newly discovered information concerning efficient energy to remote corners of the world will ensure small-scale businesses can conduct successful production and sale of agricultural products. Advanced Agro-Engineering Technologies for Rural Business Development is an essential reference source that examines technological methods and technical means that ensure the organization of production of various products and adapts them for application in small-scale production. Additionally, it seeks to organize an efficient production process in the face of energy resource scarcity and emphasizes the need to rationally use them. This book is ideally designed for students, managers, experts, and small businesses.

Applying Nanotechnology to the Desulfurization Process in Petroleum Engineering

Feb 07 2021 As regulations push the fossil fuel industry toward increasing standards of eco-friendliness and environmental sustainability, desulfurization (the removal of SO₂ from industrial waste byproducts) presents a new and unique challenge that current technology is not equipped to address. Advances in nanotechnology offer exciting new opportunities poised to

revolutionize desulfurization processes. Applying Nanotechnology to the Desulfurization Process in Petroleum Engineering explores recent developments in the field, including the use of nanomaterials for biodesulfurization and hydrodesulfurization. The timely research presented in this volume targets an audience of engineers, researchers, educators as well as students at the undergraduate and post-graduate levels.

Engineering Science Oct 27 2022 Comprehensive engineering science coverage that is fully in line with the latest vocational course requirements New chapters on heat transfer and fluid mechanics Topic-based approach ensures that this text is suitable for all vocational engineering courses Coverage of all the mechanical, electrical and electronic principles within one volume provides a comprehensive exploration of scientific principles within engineering Engineering Science is a comprehensive textbook suitable for all vocational and pre-degree courses. Taking a subject-led approach, the essential scientific principles engineering students need for their studies are topic-by-topic based in presentation. Unlike most of the textbooks available for this subject, Bill Bolton goes beyond the core science to include the mechanical, electrical and electronic principles needed in the majority of courses. A concise and accessible text is supported by numerous worked examples and problems, with a complete answer section at the back of the book. Now in its sixth edition, the text has been fully updated in line with the current BTEC National syllabus and will also prove an essential reference for students embarking on Higher National engineering qualifications and Foundation Degrees.

Green Building Management and Smart Automation Nov 23 2019 Throughout the world, there is an increasing demand on diminishing natural resources in the industrial, transport, commercial, and residential sectors. Of these, the residential sector uses the most energy on such needs as lighting, water heating, air conditioning, space heating, and refrigeration. This sector alone consumes one-third of the total primary energy resources available. By using green building and smart automation techniques, this demand for energy resources can be lowered. Green Building Management and Smart Automation is an essential scholarly publication that provides an in-depth analysis of design technologies for green building and highlights the smart automation technologies that help in energy conservation, along with various performance metrics that are necessary to facilitate a building to be known as a “Green Smart Building.” Featuring a range of topics such as environmental quality, energy management, and big data analytics, this book is ideal for researchers, engineers, policymakers, government officials, architects, and students.

Applied Engineering Sciences Dec 17 2021 This proceedings volume contains selected papers presented at the 2014 AASRI International Conference on Applied Engineering Sciences, held in Hollywood, LA, USA. Contributions cover the latest developments and advances in the field of Applied Engineering Sciences.

Handbook of Research on Computational Intelligence for Engineering, Science, and Business Jul 12 2021 "This book discusses the computation intelligence approaches, initiatives and applications in the engineering, science and business fields, highlighting that computational intelligence as no longer limited to computing-related disciplines and can be applied to any effort which handles complex and meaningful information"--

Materials for Construction and Civil Engineering Aug 13 2021 This expansive volume presents the essential topics related to construction materials composition and their practical application in structures and civil installations. The book's diverse slate of expert authors assemble invaluable case examples and performance data on the most important groups of materials used in construction, highlighting aspects such as nomenclature, the properties, the manufacturing processes, the selection criteria, the products/applications, the life cycle and recyclability, and the normalization. *Civil Engineering Materials: Science, Processing, and Design* is ideal for practicing architects; civil, construction, and structural engineers, and serves as a comprehensive reference for students of these disciplines. This book also:

- Provides a substantial and detailed overview of traditional materials used in structures and civil infrastructure
- Discusses properties of natural and synthetic materials in construction and materials' manufacturing processes
- Addresses topics important to professionals working with structural materials, such as corrosion, nanomaterials, materials life cycle, not often covered outside of journal literature
- Diverse author team presents expert perspective from civil engineering, construction, and architecture
- Features a detailed glossary of terms and over 400 illustrations

Computer Vision and Image Processing in Intelligent Systems and Multimedia Technologies Dec 25 2019 The fields of computer vision and image processing are constantly evolving as new research and applications in these areas emerge. Staying abreast of the most up-to-date developments in this field is necessary in order to promote further research and apply these developments in real-world settings. *Computer Vision and Image Processing in Intelligent Systems and Multimedia Technologies* features timely and informative research on the design and development of computer vision and image processing applications in intelligent agents as well as in multimedia technologies. Covering a diverse set of research in these areas, this publication is ideally designed for use by academicians, technology professionals, students, and researchers interested in uncovering the latest innovations in the field.