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Advances in Electrical Engineering and Automation

Springer Science & Business Media EEA2011 is an integrated conference concentration its focus on Electrical Engineering and Automation. In the proceeding, you can learn much more knowledge about Electrical Engineering and Automation of researchers from all around the world. The main role of the proceeding is to be used as an exchange pillar for researchers who are working in the mentioned fields. In order to meet the high quality of Springer, AISC series, the organization committee has made their efforts to do the following things. Firstly, poor quality paper has been refused after reviewing course by anonymous referee experts. Secondly, periodically review meetings have been held around the reviewers about five times for exchanging reviewing suggestions. Finally, the conference organizers had several preliminary sessions before the conference. Through efforts of different people and departments, the conference will be successful and fruitful.

New Knowledge in Information Systems and Technologies

Volume 3

Springer This book includes a selection of articles from The 2019 World Conference on Information Systems and Technologies (WorldCIST'19), held from April 16 to 19, at La Toja, Spain. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges in modern information systems and technologies research, together with their technological development and applications. The book covers a number of topics, including A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human-Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; and N) Technologies for Biomedical Applications.

Design of Steel Structures

Springer Science & Business Media This book is intended for classroom teaching in architectural and civil engineering at the graduate and undergraduate levels. Although it has been developed from lecture notes given in structural steel design, it can be useful to practicing engineers. Many of the examples presented in this book are drawn from the field of design of structures. Design of Steel Structures can be used for one or two semesters of three hours each on the undergraduate level. For a two-semester curriculum, Chapters 1 through 8 can be used during the first semester. Heavy emphasis should be placed on Chapters 1 through 5, giving the student a brief exposure to the consideration of wind and earthquakes in the design of buildings. With the new federal requirements vis a vis wind and earthquake hazards, it is beneficial to the student to have some understanding of the underlying concepts in this field. In addition to the class lectures, the instructor should require the student to submit a term project that includes the complete structural design of a multi-story building using standard design procedures as specified by AISC Specifications. Thus, the use of the AISC Steel Construction Manual is a must in teaching this course. In the second semester, Chapters 9 through 13 should be covered. At the undergraduate level, Chapters 11 through 13 should be used on a limited basis, leaving the student more time to concentrate on composite construction and built-up girders.

Human Interaction, Emerging Technologies and Future Systems V

Proceedings of the 5th International Virtual Conference on Human Interaction and Emerging Technologies, IHIET 2021, August 27-29, 2021 and the 6th IHIET: Future Systems (IHIET-FS 2021), October 28-30, 2021, France

Springer Nature This book reports on research and developments in human-technology interaction. A special emphasis is given to human-computer interaction and its implementation for a wide range of purposes such as health care, aerospace, telecommunication, and education, among others. The human aspects are analyzed in detail. Timely studies on human-centered design, wearable technologies, social and affective computing, augmented, virtual and mixed reality simulation, human rehabilitation, and biomechanics represent the core of the book. Emerging technology applications in business, security, and infrastructure are also critically examined, thus offering a timely, scientifically grounded, but also professionally oriented snapshot of the current state of the field. The book gathers contributions presented at the 5th International Conference on Human Interaction and Emerging Technologies (IHIET 2021, August 27-29, 2021) and the 6th International Conference on Human Interaction and Emerging Technologies: Future Systems (IHIET-FS 2021, October 28-30, 2021), held virtually from France. It offers a timely survey and a practice-oriented reference guide to researchers and professionals dealing with design, systems engineering, and management of the next-generation technology and service systems.

Steel Construction Manual

Amer Inst of Steel Construction Originally published in 1926 [i.e. 1927] under title: Steel construction; title of 8th ed.: Manual of steel construction.

Intelligent and Cloud Computing

Proceedings of ICICC 2019, Volume 1

[Springer Nature](#) This book features a collection of high-quality research papers presented at the International Conference on Intelligent and Cloud Computing (ICICC 2019), held at Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, India, on December 20, 2019. Including contributions on system and network design that can support existing and future applications and services, it covers topics such as cloud computing system and network design, optimization for cloud computing, networking, and applications, green cloud system design, cloud storage design and networking, storage security, cloud system models, big data storage, intra-cloud computing, mobile cloud system design, real-time resource reporting and monitoring for cloud management, machine learning, data mining for cloud computing, data-driven methodology and architecture, and networking for machine learning systems.

Connections in Steel Structures

Behaviour, strength and design

[CRC Press](#) This book is the Proceedings of a State-of-the-Art Workshop on Connections and the Behaviour, Strength and Design of Steel Structures held at Laboratoire de Mecanique et Technologie, Ecole Normale, Cachan France from 25th to 27th May 1987. It contains the papers presented at the above proceedings and is split into eight main sections covering: Local Analysis of Joints, Mathematical Models, Classification, Frame Analysis, Frame Stability and Simplified Methods, Design Requirements, Data Base Organisation, Research and Development Needs. With papers from 50 international contributors this text will provide essential reading for all those involved with steel structures.

Proceedings of the 7th International Conference on Kansei Engineering and Emotion Research 2018

KEER 2018, 19-22 March 2018, Kuching, Sarawak, Malaysia

[Springer](#) The proceedings gather a selection of refereed papers presented at the 7th International Conference on Kansei Engineering and Emotion Research 2018 (KEER 2018), which was held in Kuching, Malaysia from 19 to 22 March 2018. The contributions address the latest advances in and innovative applications of Kansei Engineering and Emotion Research. The subjects include: Kansei, Emotion and Games Kansei, Emotion and Computing Kansei, Emotion and Wellbeing / Quality of Life Kansei, Emotion and Design Kansei, Emotion and Health / Ergonomics Kansei, Emotion and Multidisciplinary Fields Kansei, Emotion and Culture Kansei, Emotion and Social computing Kansei, Emotion and Evaluation Kansei, Emotion and User Experience The book offers a valuable resource for all graduate students, experienced researchers and industrial practitioners interested in the fields of user experience/usability, engineering design, human factors, quality management, product development and design.

Proceedings of the 20th Congress of the International Ergonomics Association (IEA 2018)

Volume VII: Ergonomics in Design, Design for All, Activity Theories for Work Analysis and Design, Affective Design

[Springer](#) This book presents the proceedings of the 20th Congress of the International Ergonomics Association (IEA 2018), held on August 26-30, 2018, in Florence, Italy. By highlighting the latest theories and models, as well as cutting-edge technologies and applications, and by combining findings from a range of disciplines including engineering, design, robotics, healthcare, management, computer science, human biology and behavioral science, it provides researchers and practitioners alike with a comprehensive, timely guide on human factors and ergonomics. It also offers an excellent source of innovative ideas to stimulate future discussions and developments aimed at applying knowledge and techniques to optimize system performance, while at the same time promoting the health, safety and wellbeing of individuals. The proceedings include papers from researchers and practitioners, scientists and physicians, institutional leaders, managers and policy makers that contribute to constructing the Human Factors and Ergonomics approach across a variety of methodologies, domains and productive sectors. This volume includes papers addressing the following topics: Ergonomics in Design, Activity Theories for Work Analysis and Design, and Affective Design.

Temporary Structure Design

[John Wiley & Sons](#) A comprehensive guide to temporary structures in construction projects Temporary Structure Design is the first book of its kind, presenting students and professionals with authoritative coverage of the major concepts in designing temporary construction structures. Beginning with a review of statistics, it presents the core topics needed to fully comprehend the design of temporary structures: strength of materials; types of loads on temporary structures; scaffolding design; soil properties and soil loading; soldier beam, lagging, and tiebacks; sheet piling and strutting; pressure and forces on formwork and falsework; concrete formwork design; falsework; bracing and guying; trestles and equipment bridges; and the support of existing structures. Temporary structures during construction include scaffolding, formwork, shoring, ramps, platforms, earth-retaining structures, and other construction structures that are not part of the permanent installation. These structures are less regulated and monitored than most other parts of the construction process, even though they are often supporting tons of steel or concrete—and the safety of all workers on the site depends on these structures to perform as designed. Unfortunately, most tragic failures occur during construction and are usually the result of improperly designed, constructed, and/or maintained temporary structures. Temporary Structure Design fills an important need in the literature by providing a trusted, comprehensive guide to designing temporary construction structures. Serves as the first book to provide a design-oriented approach to the design of temporary structures Includes coverage of the various safety considerations inherent in temporary structure design and construction Provides information on estimating cost and schedules for these specialized structures Covers formwork and falsework, as well as personnel protection, production support, environmental protection, and foundational structures If you're a student or a professional working in the field of construction or structural engineering, Temporary Structure Design is a must-have resource you'll turn to again and again.

BIM Handbook

A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers

[John Wiley & Sons](#) Discover BIM: A better way to build better buildings Building Information Modeling (BIM) offers a novel approach to design, construction, and facility management in which a digital representation of the building product and process is used to facilitate the exchange and interoperability of information in digital format. BIM is beginning to change the way buildings look, the way they function, and the ways in which they are designed and built. The BIM Handbook, Third Edition provides an in-depth understanding of BIM technologies, the business and organizational issues associated with its implementation, and the profound advantages that effective use of BIM can provide to all members of a project team. Updates to this edition include: Information on the ways in which professionals should use BIM to gain maximum value New topics such as collaborative working, national and major construction clients, BIM standards and guides A discussion on how various professional roles have expanded through the widespread use and the new avenues of BIM practices and services A wealth of new case studies that clearly illustrate exactly how BIM is applied in a wide variety of conditions Painting a colorful and thorough picture of the state of the art in building information modeling, the BIM Handbook, Third Edition guides readers to successful implementations, helping them to avoid needless frustration and costs and take full advantage of this paradigm-shifting approach to construct better buildings that consume fewer materials and require less time, labor, and capital resources.

Doctoral Symposium on Information and Communication Technologies - DSICT

[Springer Nature](#) Information and communication technologies have provided great advances in fields such as medicine, industry, telecommunications, education, environmental protection, and more. The first edition of DSICT presents researches, advances and new challenges for ICTs in the above-mentioned fields through a collection of selected articles. All these contributions have been presented during the Doctoral Symposium on Information and Communication Technologies that brought together experts from various parts of the world to discuss and share what will be the starting points for new lines of research and working groups in the field of ICT. Professionals and researchers in the field of ICT will find in this book significant contributions to their research. Because of the breadth of the application of ICT, this book will also be useful for businessmen and entrepreneurs in the field of technology. They will be able to learn about the latest ICT applications and their future projections.

Structural Engineer's Pocket Book

[Elsevier](#) Until now there has been no comprehensive pocket reference guide for professional and student structural engineers. The Structural Engineers Pocket Book is a unique compilation of all table, data, facts, formulae and rules of thumb needed for scheme design by structural engineers in the office, in transit or on site. By bringing together data from many sources, this pocket book is a compact source of job-simplifying information at an affordable price. It is a first point of reference as well as saving valuable time spent trying to track down information that is needed on a daily basis. This may be a small book in terms of its physical dimensions, but it contains a wealth of useful engineering knowledge. Concise and precise, the book is split into 13 sections, with quick and clear access to subject areas including: timber, masonry, concrete, aluminium and glass. British Standards are used and referenced throughout. *the only book of its kind for structural engineers. *brings together information from many different sources for the first time. *comprehensive, yet concise and affordable.

ICGG 2020 - Proceedings of the 19th International Conference on Geometry and Graphics

[Springer Nature](#) This book covers various aspects of Geometry and Graphics, from recent achievements on theoretical researches to a wide range of innovative applications, as well as new teaching methodologies and experiences, and reinterpretations and findings about the masterpieces of the past. It is from the 19th International Conference on Geometry and Graphics, which was held in São Paulo, Brazil. The conference started in 1978 and is promoted by the International Society for Geometry and Graphics, which aims to foster international collaboration and stimulate the scientific research and teaching methodology in the fields of Geometry and Graphics. Organized five topics, which are Theoretical Graphics and Geometry; Applied Geometry and Graphics; Engineering Computer Graphics; Graphics Education and Geometry; Graphics in History, the book is intended for the professionals, academics and researchers in architecture, engineering, industrial design, mathematics and arts involved in the multidisciplinary field.

Proceedings of International Conference on Advances in Computing

[Springer Science & Business Media](#) This is the first International Conference on Advances in Computing (ICAdC-2012). The scope of the conference includes all the areas of New Theoretical Computer Science, Systems and Software, and Intelligent systems. Conference Proceedings is a culmination of research results, papers and the theory related to all the three major areas of computing mentioned above. Helps budding researchers, graduates in the areas of Computer Science, Information Science, Electronics, Telecommunication, Instrumentation, Networking to take forward their research work based on the reviewed results in the paper by mutual interaction through e-mail contacts in the proceedings.

Structural Steel Design

LRFD Method

[Prentice Hall](#) the undergraduate course in structural steel design using the Load and Resistance Factor Design Method (LRFD). The text also enables practicing engineers who have been trained to use the Allowable Stress Design procedure (ASD) to change easily to this more economical and realistic method for proportioning steel structures. The book comes with problem-solving software tied to chapter exercises which allows student to specify parameters for particular problems and have the computer assist them. On-screen information about how to use the software and the significance of various problem parameters is featured. The second edition reflects the revised steel specifications (LRFD) of the American Institute of Steel Construction.

Intelligent Systems Design and Applications

20th International Conference on Intelligent Systems Design and Applications (ISDA 2020) held December 12-15, 2020

[Springer](#) This book highlights recent research on intelligent systems and nature-inspired computing. It presents 130 selected papers from the 19th International Conference on Intelligent Systems Design and Applications (ISDA 2020), which was held online. The ISDA is a premier conference in the field of computational intelligence, and the latest installment brought together researchers, engineers and practitioners whose work involves intelligent systems and their applications in industry. Including contributions by authors from 40 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.

PCI Design Handbook

Precast and Prestressed Concrete

Handbook of Steel Connection Design and Details

[McGraw Hill Professional](#) The Definitive Guide to Steel Connection Design Fully updated with the latest AISC and ICC codes and specifications, Handbook of Structural Steel Connection Design and Details, Second Edition, is the most comprehensive resource on load and resistance factor design (LRFD) available. This authoritative volume surveys the leading methods for connecting structural steel components, covering state-of-the-art techniques and materials, and includes new information on welding and connections. Hundreds of detailed examples, photographs, and illustrations are found throughout this practical handbook. Handbook of Structural Steel Connection Design and Details, Second Edition, covers: Fasteners and welds for structural connections Connections for axial, moment, and shear forces Welded joint design and production Splices, columns, and truss chords Partially restrained connections Seismic design Structural steel details Connection design for special structures Inspection and quality control Steel deck connections Connection to composite members

Memorial Tributes

Volume 21

[National Academies Press](#) This is the 21st Volume in the series Memorial Tributes compiled by the National Academy of Engineering as a personal remembrance of the lives and outstanding achievements of its members and foreign associates. These volumes are intended to stand as an enduring record of the many contributions of engineers and engineering to the benefit of humankind. In most cases, the authors of the tributes are contemporaries or colleagues who had personal knowledge of the interests and the engineering accomplishments of the deceased. Through its members and foreign associates, the Academy carries out the responsibilities for which it was established in 1964. Under the charter of the National Academy of Sciences, the National Academy of Engineering was formed as a parallel organization of outstanding engineers. Members are elected on the basis of significant contributions to engineering theory and practice and to the literature of engineering or on the basis of demonstrated unusual accomplishments in the pioneering of new and developing fields of technology. The National Academies share a responsibility to advise the federal government on matters of science and technology. The expertise and credibility that the National Academy of Engineering brings to that task stem directly from the abilities, interests, and achievements of our members and foreign associates, our colleagues and friends, whose special gifts we remember in this book.

ICT Based Innovations

Proceedings of CSI 2015

[Springer](#) This volume comprises the select proceedings of the annual convention of the Computer Society of India. Divided into 10 topical volumes, the proceedings present papers on state-of-the-art research, surveys, and succinct reviews. The volumes cover diverse topics ranging from communications networks to big data analytics, and from system architecture to cyber security. This volume focuses on ICT Based Innovations. The contents of this book will be useful to researchers and students alike.

Steel Design

[Cengage Learning](#) STEEL DESIGN covers the fundamentals of structural steel design with an emphasis on the design of members and their connections, rather than the integrated design of buildings. The book is designed so that instructors can easily teach LRFD, ASD, or both, time-permitting. The application of fundamental principles is encouraged for design procedures as well as for practical design, but a theoretical approach is also provided to enhance student development. While the book is intended for junior-and senior-level engineering students, some of the later chapters can be used in graduate courses and practicing engineers will find this text to be an essential reference tool for reviewing current practices. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Digital Enterprise Design & Management

Proceedings of the Second International Conference on Digital Enterprise Design and Management DED&M 2014

[Springer Science & Business Media](#) This book contains all refereed papers that were accepted to the second edition of the « Digital Enterprise Design & Management » (DED&M 2014) international conference that took place in Paris (France) from February 4 to February 5, 2014. These proceedings cover the most recent trends in the emerging field of Digital Enterprise, both from an academic and a professional perspective. A special focus is put on digital uses, digital strategies, digital infrastructures and digital governance from an Enterprise Architecture point of view. The DED&M 2014 conference is organized under the guidance of the Center of Excellence on Systems Architecture, Management, Economy and Strategy and benefits from the supports of both the Orange - Ecole Polytechnique - Télécom ParisTech "Innovation and Regulation" Chair and the Dassault Aviation - DCNS - DGA - Thales - Ecole Polytechnique - ENSTA ParisTech - Télécom ParisTech "Complex Systems Engineering" Chair.

Advanced FPGA Design

Architecture, Implementation, and Optimization

[John Wiley & Sons](#) This book provides the advanced issues of FPGA design as the underlying theme of the work. In practice, an engineer typically needs to be mentored for several years before these principles are appropriately utilized. The topics that will be discussed in this book are essential to designing FPGA's beyond moderate complexity. The goal of the book is to present practical design techniques that are otherwise only available through mentorship and real-world experience.

Visual and Non-Visual Effects of Light

Working Environment and Well-Being

[CRC Press](#) The introduction of artificial lighting extends the time of wakefulness after dark and enables work at night, thus disturbing the human circadian rhythm. The understanding of the physiological mechanisms of visual and non-visual systems may be important for the development and use of proper light infrastructure and light interventions for different workplace settings, especially for shift work conditions. Visual and Non-Visual Effects of Light: Working Environment and Well-Being presents the impact of lighting in the working environment on human health, well-being and visual performance. The physiological explanation of the visual and non-visual effects of light on humans which discusses the biological bases of image and non-image forming vision at the cellular level may be of particular interest to any professional in the field of medicine, physiology, and biology. It is one of the intentions of this book to put forward some recommendations and examples of lighting design which take into account both the visual and non-visual effects of light on humans. These may be of particular interest to any professional in the field of lighting, occupational safety and health, and interior design. "What effects on health can a light 'overdose' or light deficiency have? What is bad light? The authors of the monograph provide answers to these questions. Just as for a physicist, the dual nature of light comprises an electromagnetic wave and a photon, the duality of light for a physician comprises visual and non-visual effects." -----Prof Jacek Przybylski, Medical University of Warsaw "This is a unique publication in the field of lighting technology. The authors have skillfully combined both the technical and biomedical aspects involved, which is unprecedented in the literature available. As a result, an important study has been created for many professional groups, with a significant impact on the assessment of risks associated with LED sources." -----Prof Andrzej Zając, Military University of Technology, Warsaw

Fundamentals of Machine Component Design

[John Wiley & Sons](#) *Fundamentals of Machine Component Design* presents a thorough introduction to the concepts and methods essential to mechanical engineering design, analysis, and application. In-depth coverage of major topics, including free body diagrams, force flow concepts, failure theories, and fatigue design, are coupled with specific applications to bearings, springs, brakes, clutches, fasteners, and more for a real-world functional body of knowledge. Critical thinking and problem-solving skills are strengthened through a graphical procedural framework, enabling the effective identification of problems and clear presentation of solutions. Solidly focused on practical applications of fundamental theory, this text helps students develop the ability to conceptualize designs, interpret test results, and facilitate improvement. Clear presentation reinforces central ideas with multiple case studies, in-class exercises, homework problems, computer software data sets, and access to supplemental internet resources, while appendices provide extensive reference material on processing methods, joinability, failure modes, and material properties to aid student comprehension and encourage self-study.

Lifelong Technology-Enhanced Learning

13th European Conference on Technology Enhanced Learning, EC-TEL 2018, Leeds, UK, September 3-5, 2018, Proceedings

[Springer](#) This book constitutes the proceedings of the 13th European Conference on Technology Enhanced Learning, EC-TEL 2018, held in Leeds, UK, in September 2018. The 42 full and short papers, 7 demo papers, and 23 poster papers presented in this volume were carefully reviewed and selected from 142 submissions. This year, the European Conference on Technology-Enhanced Learning (EC-TEL) will engage researchers, practitioners, educational developers, entrepreneurs and policy makers in a joint discussion on how to put science, technology and practice at the service of learning to embrace these challenges on the topic: Lifelong technology enhanced learning: Dealing with the complexity of 21st century challenges. /div Chapter "" is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.

Steel Designers' Manual Fifth Edition: The Steel Construction Institute

[Wiley-Blackwell](#) This classic manual for structural steelwork design was first published in 1956. Since then, it has sold many thousands of copies worldwide. The fifth edition is the first major revision for 20 years and is the first edition to be fully based on limit state design, now used as the primary design method, and on the UK code of practice, BS 5950. It provides, in a single volume, all you need to know about structural steel design.

Metals in America's Historic Buildings

[DIANE Publishing](#) Promotes an awareness of metals in America's buildings and monuments, and makes recommendations for the preservation and repair of such metals. Intended for owners, architects, and building managers who are responsible for the preservation and maintenance of America's architectural heritage. When metal building components need rehabilitation or maintenance, info. on proper preservation techniques for each metal and its alloys has not been available. This sourcebook on historic architectural metals is a reference on metals used in architecture; how they are used, how to identify them, and when to replace them. Photos

Design and Analysis of Connections in Steel Structures

Fundamentals and Examples

[John Wiley & Sons](#) The book introduces all the aspects needed for the safe and economic design and analysis of connections using bolted joints in steel structures. This is not treated according to any specific standard but making comparison among the different norms and methodologies used in the engineering practice, e.g. Eurocode, AISC, DIN, BS. Several examples are solved and illustrated in detail, giving the reader all the tools necessary to tackle also complex connection design problems. The book is introductory but also very helpful to advanced and specialist audiences because it covers a large variety of practice demands for connection design. Parts that are not taken to an advanced level are seismic design, welds, interaction with other materials (concrete, wood), and cold formed connections./p

Trends in Advanced Intelligent Control, Optimization and Automation

Proceedings of KKA 2017—The 19th Polish Control Conference, Kraków, Poland, June 18–21, 2017

[Springer](#) This volume contains the proceedings of the KKA 2017 - the 19th Polish Control Conference, organized by the Department of Automatics and Biomedical Engineering, AGH University of Science and Technology in Kraków, Poland on June 18–21, 2017, under the auspices of the Committee on Automatic Control and Robotics of the Polish Academy of Sciences, and the Commission for Engineering Sciences of the Polish Academy of Arts and Sciences. Part 1 deals with general issues of modeling and control, notably flow modeling and control, sliding mode, predictive, dual, etc. control. In turn, Part 2 focuses on optimization, estimation and prediction for control. Part 3 is concerned with autonomous vehicles, while Part 4 addresses applications. Part 5 discusses computer methods in control, and Part 6 examines fractional order calculus in the modeling and control of dynamic systems. Part 7 focuses on modern robotics. Part 8 deals with modeling and identification, while Part 9 deals with problems related to security, fault detection and diagnostics. Part 10 explores intelligent systems in automatic control, and Part 11 discusses the use of control tools and techniques in biomedical engineering. Lastly, Part 12 considers engineering education and teaching with regard to automatic control and robotics.

Engineering Journal

The Journal of the Engineering Institute of Canada

Vol. 7, no.7, July 1924, contains papers prepared by Canadian engineers for the first World power conference, July, 1924.

Introduction to Optimum Design

[Academic Press](#) *Introduction to Optimum Design, Third Edition* describes an organized approach to engineering design optimization in a rigorous yet simplified manner. It illustrates various concepts and procedures with simple examples and demonstrates their applicability to engineering design problems. Formulation of a design problem as an optimization problem is emphasized and illustrated throughout the text. Excel and MATLAB® are featured as learning and teaching aids. Basic concepts of optimality conditions and numerical methods are described with simple and practical examples, making the material highly teachable and learnable Includes applications of optimization methods for structural, mechanical, aerospace, and industrial engineering problems Introduction to MATLAB Optimization Toolbox Practical design examples introduce students to the use of optimization methods

early in the book New example problems throughout the text are enhanced with detailed illustrations Optimum design with Excel Solver has been expanded into a full chapter New chapter on several advanced optimum design topics serves the needs of instructors who teach more advanced courses

Intelligent Engineering Informatics

Proceedings of the 6th International Conference on FICTA

Springer This book presents the proceedings of the 6th International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2017), held in Bhubaneswar, Odisha. The event brought together researchers, scientists, engineers, and practitioners to exchange their new ideas and experiences in the domain of intelligent computing theories with prospective applications to various engineering disciplines. The book is divided into two volumes: Information and Decision Sciences, and Intelligent Engineering Informatics. This volume covers broad areas of Intelligent Engineering Informatics, with papers exploring both the theoretical and practical aspects of various areas like ANN and genetic algorithms, human-computer interaction, intelligent control optimisation, intelligent e-learning systems, machine learning, mobile computing, multi-agent systems, etc. The book also offers a valuable resource for students at the post-graduate level in various engineering disciplines.

Intelligent and Fuzzy Techniques: Smart and Innovative Solutions

Proceedings of the INFUS 2020 Conference, Istanbul, Turkey, July 21-23, 2020

Springer Nature This book gathers the most recent developments in fuzzy & intelligence systems and real complex systems presented at INFUS 2020, held in Istanbul on July 21-23, 2020. The INFUS conferences are a well-established international research forum to advance the foundations and applications of intelligent and fuzzy systems, computational intelligence, and soft computing, highlighting studies on fuzzy & intelligence systems and real complex systems at universities and international research institutions. Covering a range of topics, including the theory and applications of fuzzy set extensions such as intuitionistic fuzzy sets, hesitant fuzzy sets, spherical fuzzy sets, and fuzzy decision-making; machine learning; risk assessment; heuristics; and clustering, the book is a valuable resource for academics, M.Sc. and Ph.D. students, as well as managers and engineers in industry and the service sectors.

Software Engineering Perspectives and Application in Intelligent Systems

Proceedings of the 5th Computer Science On-line Conference 2016 (CSOC2016), Vol 2

Springer The volume Software Engineering Perspectives and Application in Intelligent Systems presents new approaches and methods to real-world problems, and in particular, exploratory research that describes novel approaches in the field of Software Engineering. Particular emphasis is laid on modern trends in selected fields of interest. New algorithms or methods in a variety of fields are also presented. The 5th Computer Science On-line Conference (CSOC 2016) is intended to provide an international forum for discussions on the latest research results in all areas related to Computer Science. The addressed topics are the theoretical aspects and applications of Computer Science, Artificial Intelligences, Cybernetics, Automation Control Theory and Software Engineering.

Guide to Stability Design Criteria for Metal Structures

John Wiley & Sons The definitive guide to stability design criteria, fully updated and incorporating current research Representing nearly fifty years of cooperation between Wiley and the Structural Stability Research Council, the Guide to Stability Design Criteria for Metal Structures is often described as an invaluable reference for practicing structural engineers and researchers. For generations of engineers and architects, the Guide has served as the definitive work on designing steel and aluminum structures for stability. Under the editorship of Ronald Ziemian and written by SSRC task group members who are leading experts in structural stability theory and research, this Sixth Edition brings this foundational work in line with current practice and research. The Sixth Edition incorporates a decade of progress in the field since the previous edition, with new features including: Updated chapters on beams, beam-columns, bracing, plates, box girders, and curved girders. Significantly revised chapters on columns, plates, composite columns and structural systems, frame stability, and arches Fully rewritten chapters on thin-walled (cold-formed) metal structural members, stability under seismic loading, and stability analysis by finite element methods State-of-the-art coverage of many topics such as shear walls, concrete filled tubes, direct strength member design method, behavior of arches, direct analysis method, structural integrity and disproportionate collapse resistance, and inelastic seismic performance and design recommendations for various moment-resistant and braced steel frames Complete with over 350 illustrations, plus references and technical memoranda, the Guide to Stability Design Criteria for Metal Structures, Sixth Edition offers detailed guidance and background on design specifications, codes, and standards worldwide.

Pressure Vessel Design Manual

Butterworth-Heinemann Pressure vessels are closed containers designed to hold gases or liquids at a pressure substantially different from the ambient pressure. They have a variety of applications in industry, including in oil refineries, nuclear reactors, vehicle airbrake reservoirs, and more. The pressure differential with such vessels is dangerous, and due to the risk of accident and fatality around their use, the design, manufacture, operation and inspection of pressure vessels is regulated by engineering authorities and guided by legal codes and standards. Pressure Vessel Design Manual is a solutions-focused guide to the many problems and technical challenges involved in the design of pressure vessels to match stringent standards and codes. It brings together otherwise scattered information and explanations into one easy-to-use resource to minimize research and take readers from problem to solution in the most direct manner possible. Covers almost all problems that a working pressure vessel designer can expect to face, with 50+ step-by-step design procedures including a wealth of equations, explanations and data Internationally recognized, widely referenced and trusted, with 20+ years of use in over 30 countries making it an accepted industry standard guide Now revised with up-to-date ASME, ASCE and API regulatory code information, and dual unit coverage for increased ease of international use

Human Interaction, Emerging Technologies and Future Applications III

Proceedings of the 3rd International Conference on Human Interaction and Emerging Technologies: Future Applications (IHET 2020), August 27-29, 2020, Paris, France

Springer Nature This book reports on research and developments in human-technology interaction. A special emphasis is given to human-computer interaction, and its implementation for a wide range of purposes such as healthcare, aerospace, telecommunication, and education, among others. The human aspects are analyzed in detail. Timely studies on human-centered design, wearable technologies, social and affective computing, augmented, virtual and mixed reality simulation, human rehabilitation and biomechanics represent the core of the book. Emerging technology applications in business, security, and infrastructure are also critically examined, thus offering a timely, scientifically-grounded, but also professionally-oriented snapshot of the current state of the field. The book is based on contributions presented at the 3rd International Conference on Human Interaction and Emerging Technologies: Future Applications, IHET 2020, held on August 27-29, 2020. It offers a timely survey and a pr