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InfrastructuresRecent Advances in Systems, Control, Signal Processing and InformaticsBearing Capacity of Roads, Railways and AirfieldsElectromechanical Control Technology and TransportationPedestrian and Evacuation Dynamics 2012Micro-Electronics and Telecommunication EngineeringProceedings of First International Conference on Information and Communication Technology for Intelligent Systems:Sensing Technology: Current Status and Future Trends IIIAdvanced Control and Optimization Paradigms for Wind Energy SystemsAgent and Multi-Agent Systems: Technology and ApplicationsMultiple View Geometry in Computer VisionSecurity and Intelligent Information Systems

Digital Image Processing

Handbook of Optical Sensors provides a comprehensive and integrated view of optical sensors, addressing the fundamentals, structures, technologies, applications, and future perspectives. Featuring chapters authored by recognized experts and major contributors to the field, this essential reference: Explains the basic aspects of optical sensors and

The Boundary Element Method in Acoustics

This book is open access under a CC BY 4.0 license. It relates to the III Annual

Conference hosted by The Ministry of Education and Science of the Russian Federation in December 2016. This event has summarized, analyzed and discussed the interim results, academic outputs and scientific achievements of the Russian Federal Targeted Programme “Research and Development in Priority Areas of Development of the Russian Scientific and Technological Complex for 2014–2020.” It contains 75 selected papers from 6 areas considered priority by the Federal Targeted Programme: computer science, ecology & environment sciences; energy and energy efficiency; lifesciences; nanoscience & nanotechnology and transport & communications. The chapters report the results of the 3-years research projects supported by the Programme and finalized in 2016.

Innovative Methods in Logistics and Supply Chain Management

Innovative Methods in Logistics and Supply Chain Management

Harmony Search Algorithm

This book presents state-of-the-art methodologies and a comprehensive introduction to the recognition and representation of species and individual animals based on their physiological and phenotypic appearances, biometric characteristics, and morphological image patterns. It provides in-depth coverage of

this emerging area, with an emphasis on the design and analysis techniques used in visual animal biometrics-based recognition systems. The book offers a comprehensive introduction to visual animal biometrics, addressing a range of recent advances and practices like sensing, feature extraction, feature selection and representation, matching, indexing of feature sets, and animal biometrics-based multimodal systems. It provides authoritative information on all the major concepts, as well as highly specific topics, e.g. the identification of cattle based on their muzzle point image pattern and face images to prevent false insurance claims, or the monitoring and registration of animals based on their biometric features. As such, the book provides a sound platform for understanding the Visual Animal Biometrics paradigm, a vital catalyst for researchers in the field, and a valuable guide for professionals. In addition, it can help both private and public organizations adapt and enhance their classical animal recognition systems.

Handbook of Optical Sensors

The 2017 2nd International Conference on Electromechanical Control Technology and Transportation (ICECTT 2017) was held on January 14–15, 2017 in Zhuhai, China. ICECTT 2017 brought together academics and industrial experts in the field of electromechanical control technology and transportation to a common forum. The primary goal of the conference was to promote research and developmental activities in electromechanical control technology and transportation. Another goal

was to promote exchange of scientific information between researchers, developers, engineers, students, and practitioners working all around the world. The conference will be held every year thus making it an ideal platform for people to share views and experiences in electromechanical control technology and transportation and related areas.

Ergonomic Design of Products and Worksystems - 21st Century Perspectives of Asia

A comprehensive introduction to the fundamentals of design and applications of wireless communications Wireless Communications Systems starts by explaining the fundamentals needed to understand, design, and deploy wireless communications systems. The author, a noted expert on the topic, explores the basic concepts of signals, modulation, antennas, and propagation with a MATLAB emphasis. The book emphasizes practical applications and concepts needed by wireless engineers. The author introduces applications of wireless communications and includes information on satellite communications, radio frequency identification, and offers an overview with practical insights into the topic of multiple input multiple output (MIMO). The book also explains the security and health effects of wireless systems concerns on users and designers. Designed as a practical resource, the text contains a range of examples and pictures that

illustrate many different aspects of wireless technology. The book relies on MATLAB for most of the computations and graphics. This important text: Reviews the basic information needed to understand and design wireless communications systems Covers topics such as MIMO systems, adaptive antennas, direction finding, wireless security, internet of things (IoT), radio frequency identification (RFID), and software defined radio (SDR) Provides examples with a MATLAB emphasis to aid comprehension Includes an online solutions manual and video lectures on selected topics Written for students of engineering and physics and practicing engineers and scientists, Wireless Communications Systems covers the fundamentals of wireless engineering in a clear and concise manner and contains many illustrative examples.

Advances in Memristors, Memristive Devices and Systems

This two volume set (CCIS 398 and 399) constitutes the refereed proceedings of the International Conference on Geo-Informatics in Resource Management and Sustainable Ecosystem, GRMSE 2013, held in Wuhan, China, in November 2013. The 136 papers presented, in addition to 4 keynote speeches and 5 invited sessions, were carefully reviewed and selected from 522 submissions. The papers are divided into 5 sessions: smart city in resource management and sustainable ecosystem, spatial data acquisition through RS and GIS in resource management and sustainable ecosystem, ecological and environmental data processing and

management, advanced geospatial model and analysis for understanding ecological and environmental process, applications of geo-informatics in resource management and sustainable ecosystem.

Soft Computing in Condition Monitoring and Diagnostics of Electrical and Mechanical Systems

This book constitutes the refereed post-conference proceedings of the Fourth International Conference on Future Access Enablers for Ubiquitous and Intelligent Infrastructures, FABULOUS 2019, held in Sofia, Bulgaria, in March 2019. This year's conference topic covers Globalization through Advanced Digital Technologies – as the digitalization in all spheres of life has an impressive influence on communication and daily life in general. The 39 revised full papers were carefully reviewed and selected from 54 submissions. The main topics deal with: healthcare/wellness applications; IoT and sensor networks; IoT security in the digital transformation era; wireless communications and networks; virtual engineering and simulations.

Evolutionary and Deterministic Methods for Design Optimization and Control With Applications to Industrial and Societal Problems

The book is a collection of high quality peer reviewed research papers presented in Seventh International Conference on Bio-Inspired Computing (BIC-TA 2012) held at ABV-IIIITM Gwalior, India. These research papers provide the latest developments in the broad area of "Computational Intelligence". The book discusses wide variety of industrial, engineering and scientific applications of nature/bio-inspired computing and presents invited papers from the inventors/originators of novel computational techniques.

Animal Biometrics

This comprehensive review provides a detailed insight into renewable energy options, their current state of development and how they can provide an environmentally sustainable energy future. This second edition is extensively revised and includes the latest advances in the field.

Modern Approaches in Applied Intelligence

The 6th International Conference on Pedestrian and Evacuation Dynamics (PED2012) showcased research on human locomotion. This book presents the proceedings of PED2012. Humans have walked for eons; our drive to settle the globe began with a walk out of Africa. However, much remains to discover. As the

world moves toward sustainability while racing to assess and accommodate climate change, research must provide insight on the physical requirements of walking, the dynamics of pedestrians on the move and more. We must understand, predict and simulate pedestrian behaviour, to avoid dangerous situations, to plan for emergencies, and not least, to make walking more attractive and enjoyable. PED2012 offered 70 presentations and keynote talks as well as 70 poster presentations covering new and improved mathematical models, describing new insights on pedestrian behaviour in normal and emergency cases and presenting research based on sensors and advanced observation methods. These papers offer a starting point for innovative new research, building a strong foundation for the next conference and for future research.

eMaintenance

The two volume set LNAI 6703 and LNAI 6704 constitutes the thoroughly refereed conference proceedings of the 24th International Conference on Industrial Engineering and Other Applications of Applied Intelligent Systems, IEA/AIE 2011, held in Syracuse, NY, USA, in June/July 2011. The total of 92 papers selected for the proceedings were carefully reviewed and selected from 206 submissions. The papers cover a wide number of topics including feature extraction, discretization, clustering, classification, diagnosis, data refinement, neural networks, genetic algorithms, learning classifier systems, Bayesian and probabilistic methods, image

processing, robotics, navigation, optimization, scheduling, routing, game theory and agents, cognition, emotion, and beliefs.

Smart Planning: Sustainability and Mobility in the Age of Change

How can we design more sustainable industrial and urban systems that reduce environmental impacts while supporting a high quality of life for everyone? What progress has been made towards reducing resource use and waste, and what are the prospects for more resilient, material-efficient economies? What are the environmental and social impacts of global supply chains and how can they be measured and improved? Such questions are at the heart of the emerging discipline of industrial ecology, covered in *Taking Stock of Industrial Ecology*. Leading authors, researchers and practitioners review how far industrial ecology has developed and current issues and concerns, with illustrations of what the industrial ecology paradigm has achieved in public policy, corporate strategy and industrial practice. It provides an introduction for students coming to industrial ecology and for professionals who wish to understand what industrial ecology can offer, a reference for researchers and practitioners and a source of case studies for teachers.

Smart Computing and Informatics

Modern Technologies for Landslide Investigation and Prediction presents eleven contributed chapters from Chinese and Italian authors, as a follow-up of a bilateral workshop held in Shanghai on September 2013. Chapters are organized in three main parts: ground-based monitoring techniques (photogrammetry, terrestrial laser scanning, ground-based InSAR, infrared thermography, and GNSS networks), geophysical (passive seismic sensor networks) and geotechnical methods (SPH and SLIDE), and satellite remote-sensing techniques (InSAR and optical images). Authors of these contributes are internationally-recognized experts in their respective research fields. Marco Scaioni works in the college of Surveying and Geo-Informatics at Tongji University, Shanghai (P.R. China). His research fields are mainly Close-range Photogrammetry, Terrestrial Laser Scanning, and other ground-based sensors for metrological and deformation monitoring applications to structural engineering and geosciences. In the period 2012-2016 he is chairman of the Working Group V/3 in the International Society for Photogrammetry and Remote Sensing, focusing on 'Terrestrial 3D Imaging and Sensors'.

Advanced Technology in Teaching

This volume contains a selection of revised and extended research articles written

by prominent researchers participating in the 25th International MultiConference of Engineers and Computer Scientists (IMECS 2017) which was held in Hong Kong, 15-17 March, 2017. Topics covered include electrical engineering, communications systems, engineering mathematics, engineering physics, and industrial applications. With contributions carefully chosen to represent the most cutting-edge research presented during the conference, the book offers the state of art in engineering technologies and physical science and applications, and also serves as an excellent reference work for researchers and graduate students working with/on engineering technologies and physical science and applications.

Environment, Energy and Sustainable Development

This volume highlights new trends and challenges in research on agents and the new digital and knowledge economy, and includes 23 papers classified into the following categories: business process management, agent-based modeling and simulation, and anthropic-oriented computing. All papers were originally presented at the 11th International KES Conference on Agents and Multi-Agent Systems - Technologies and Applications (KES-AMSTA 2017) held June 21-23, 2017 in Vilamoura, Algarve, Portugal. Today's economy is driven by technologies and knowledge. Digital technologies can free, shift and multiply choices, and often intrude on the territory of other industries by providing new ways of conducting business operations and creating value for customers and companies. The topics

covered in this volume include software agents, multi-agent systems, agent modeling, mobile and cloud computing, big data analysis, business intelligence, artificial intelligence, social systems, computer embedded systems and nature inspired manufacturing, etc., all of which contribute to the modern Digital Economy. The results presented here will be of theoretical and practical value to researchers and industrial practitioners working in the fields of artificial intelligence, collective computational intelligence, innovative business models, the new digital and knowledge economy and, in particular, agent and multi-agent systems, technologies, tools and applications.

Proceedings of Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012)

The Harmony Search Algorithm (HSA) is one of the most well-known techniques in the field of soft computing, an important paradigm in the science and engineering community. This volume, the proceedings of the 2nd International Conference on Harmony Search Algorithm 2015 (ICHSA 2015), brings together contributions describing the latest developments in the field of soft computing with a special focus on HSA techniques. It includes coverage of new methods that have potentially immense application in various fields. Contributed articles cover aspects of the following topics related to the Harmony Search Algorithm: analytical

studies; improved, hybrid and multi-objective variants; parameter tuning; and large-scale applications. The book also contains papers discussing recent advances on the following topics: genetic algorithms; evolutionary strategies; the firefly algorithm and cuckoo search; particle swarm optimization and ant colony optimization; simulated annealing; and local search techniques. This book offers a valuable snapshot of the current status of the Harmony Search Algorithm and related techniques, and will be a useful reference for practising researchers and advanced students in computer science and engineering.

Low Power Digital CMOS Design

2013 International Conference on Systems, Control, Signal Processing and Informatics (SCSI 2013)

Taking Stock of Industrial Ecology

Yield Design

This volume contains 59 papers presented at ICTIS 2015: International Conference on Information and Communication Technology for Intelligent Systems. The

conference was held during 28th and 29th November, 2015, Ahmedabad, India and organized communally by Venus International College of Technology, Association of Computer Machinery, Ahmedabad Chapter and Supported by Computer Society of India Division IV - Communication and Division V - Education and Research. This volume contains papers mainly focused on ICT for Computation, Algorithms and Data Analytics etc.

Transactions on Engineering Technologies

This book offers an overview of sustainability and urban mobility in the context of urban planning - topics that are of considerable interest in the development of smart cities. Environmental sustainability is universally recognized as a fundamental condition for any urban policy or urban management activity, while mobility is essential for the survival of complex urban systems. The new opportunities offered by innovations in the mobility of people, goods and information, as well as radically changing interactions and activities are transforming cities. Including contributions by urban planning scholars, the book provides an up-to-date picture of the latest studies and innovative policies and practices in Italy, of particular interest due to its spatial, functional and social peculiarities. Sustainability and mobility must form the basis of "smart planning" - a new dimension of urban planning linked to two main innovations: procedural innovation in the management of territorial transformations and the technological

innovation of the generation, processing and distribution of data (big data) for the creation of new "digital environments" such as GIS, BIM, models of augmented and mixed reality, useful for describing changes in human settlement in real time.

Proceedings of the Scientific-Practical Conference "Research and Development - 2016"

A gentle introduction to genetic algorithms. Genetic algorithms revisited: mathematical foundations. Computer implementation of a genetic algorithm. Some applications of genetic algorithms. Advanced operators and techniques in genetic search. Introduction to genetics-based machine learning. Applications of genetics-based machine learning. A look back, a glance ahead. A review of combinatorics and elementary probability. Pascal with random number generation for fortran, basic, and cobol programmers. A simple genetic algorithm (SGA) in pascal. A simple classifier system(SCS) in pascal. Partition coefficient transforms for problem-coding analysis.

Geo-Informatics in Resource Management and Sustainable Ecosystem

Environment, Energy and Sustainable Development brings together 242 peer-

reviewed papers presented at the 2013 International Conference on Frontiers of Energy and Environment Engineering, held in Xiamen, China, November 28-29, 2013. The main objective of this proceedings set is to take the environment-energy developments discussion a step further. Volume 1 of the set is devoted to Energy, power and environmental engineering, and volume 2 to Control, information and applications. Environment, Energy and Sustainable Development is intended to serve as resource material for scientists working on related topics in many disciplines, including environmental science, management science, and energy science and policy analysis, as well as for industry professionals in the wide field of energy and environmental engineering.

Genetic Algorithms in Search, Optimization, and Machine Learning

This book presents selected papers from the 3rd International Conference on Micro-Electronics and Telecommunication Engineering, held at SRM Institute of Science and Technology, Ghaziabad, India, on 30-31 August 2019. It covers a wide variety of topics in micro-electronics and telecommunication engineering, including micro-electronic engineering, computational remote sensing, computer science and intelligent systems, signal and image processing, and information and communication technology.

Recycled Aggregate Concrete Structures

Since the middle of the 20th Century yield design approaches have been identified with the lower and upper bound theorem of limit analysis theory – a theory associated with perfect plasticity. This theory is very restrictive regarding the applicability of yield design approaches, which have been used for centuries for the stability of civil engineering structures. This book presents a theory of yield design within the original “equilibrium/resistance” framework rather than referring to the theories of plasticity or limit analysis; expressing the compatibility between the equilibrium of the considered structure and the resistance of its constituent material through simple mathematical arguments of duality and convex analysis results in a general formulation, which encompasses the many aspects of its implementation to various stability analysis problems. After a historic outline and an introductory example, the general theory is developed for the three-dimensional continuum model in a versatile form based upon simple arguments from the mathematical theory of convexity. It is then straightforwardly transposed to the one-dimensional curvilinear continuum, for the yield design analysis of beams, and the two-dimensional continuum model of plates and thin slabs subjected to bending. Field and laboratory observations of the collapse of mechanical systems are presented along with the defining concept of the multi-parameter loading mode. The compatibility of equilibrium and resistance is first expressed in its primal form, on the basis of the equilibrium equations and the strength domain of the material

defined by a convex strength criterion along with the dual approach in the field of potentially safe loads, as is the highlighting of the role implicitly played by the theory of yield design as the fundamental basis of the implementation of the ultimate limit state design (ULSD) philosophy with the explicit introduction of resistance parameters.

Contents

1. Origins and Topicality of a Concept.
2. An Introductory Example of the Yield Design Approach.
3. The Continuum Mechanics Framework.
4. Primal Approach of the Theory of Yield Design.
5. Dual Approach of the Theory of Yield Design.
6. Kinematic Exterior Approach.
7. Ultimate Limit State Design from the Theory of Yield Design.
8. Optimality and Probability Approaches of Yield Design.
9. Yield Design of Structures.
10. Yield Design of Plates: the Model.
11. Yield Design of Plates Subjected to Pure Bending.

About the Authors
Jean Salençon is Emeritus Professor at École polytechnique and École des ponts et chaussées, ParisTech, France. Since 2009 he has been a member of the Administrative Board of CNRS (Paris, France). He has received many awards including the Légion d'Honneur (Commander), Ordre National du Mérite (Officer) and Palmes Académiques (Commander). His research interests include structure analysis, soil mechanics and continuum mechanics.

Wireless Communications Systems

Power consumption has become a major design consideration for battery-operated, portable systems as well as high-performance, desktop systems. Strict limitations

on power dissipation must be met by the designer while still meeting ever higher computational requirements. A comprehensive approach is thus required at all levels of system design, ranging from algorithms and architectures to the logic styles and the underlying technology. Potentially one of the most important techniques involves combining architecture optimization with voltage scaling, allowing a trade-off between silicon area and low-power operation. Architectural optimization enables supply voltages of the order of 1 V using standard CMOS technology. Several techniques can also be used to minimize the switched capacitance, including representation, optimizing signal correlations, minimizing spurious transitions, optimizing sequencing of operations, activity-driven power down, etc. The high- efficiency of DC-DC converter circuitry required for efficient, low-voltage and low-current level operation is described by Stratakos, Sullivan and Sanders. The application of various low-power techniques to a chip set for multimedia applications shows that orders-of-magnitude reduction in power consumption is possible. The book also features an analysis by Professor Meindl of the fundamental limits of power consumption achievable at all levels of the design hierarchy. Svensson, of ISI, describes emerging adiabatic switching techniques that can break the CV²f barrier and reduce the energy per computation at a fixed voltage. Srivastava, of AT&T, presents the application of aggressive shut-down techniques to microprocessor applications.

Renewables

A basic problem in computer vision is to understand the structure of a real world scene given several images of it. Techniques for solving this problem are taken from projective geometry and photogrammetry. Here, the authors cover the geometric principles and their algebraic representation in terms of camera projection matrices, the fundamental matrix and the trifocal tensor. The theory and methods of computation of these entities are discussed with real examples, as is their use in the reconstruction of scenes from multiple images. The new edition features an extended introduction covering the key ideas in the book (which itself has been updated with additional examples and appendices) and significant new results which have appeared since the first edition. Comprehensive background material is provided, so readers familiar with linear algebra and basic numerical methods can understand the projective geometry and estimation algorithms presented, and implement the algorithms directly from the book.

Modern Technologies for Landslide Monitoring and Prediction

This book presents advanced studies on the conversion efficiency, mechanical reliability, and the quality of power related to wind energy systems. The main concern regarding such systems is reconciling the highly intermittent nature of the primary source (wind speed) with the demand for high-quality electrical energy and system stability. This means that wind energy conversion within the standard

parameters imposed by the energy market and power industry is unachievable without optimization and control. The book discusses the rapid growth of control and optimization paradigms and applies them to wind energy systems: new controllers, new computational approaches, new applications, new algorithms, and new obstacles.

Future Access Enablers for Ubiquitous and Intelligent Infrastructures

This book describes how, given the global challenge of a shortage of natural resources in the 21st century, the recycling of waste concrete is one of the most important means of implementing sustainable construction development strategies. Firstly, the book presents key findings on the micro- and meso-structure of recycled aggregate concrete (RAC), while the second part focuses on the mechanical properties of RAC: the strength, elastic modulus, Poisson's ratio, stress-strain curve, etc. The third part of the book explores research on the durability of RAC: carbonization, chloride penetration, shrinkage and creep. It then presents key information on the mechanical behavior and seismic performance of RAC elements and structures: beams, columns, slabs, beam-column joints, and frames. Lastly, the book puts forward design guidelines for recycled aggregate concrete structures. Taken as a whole, the research results – based on a series of

investigations the author has conducted on the mechanical properties, durability and structural performance of recycled aggregate concrete (RAC) over the past 10 years – demonstrate that, with proper design and construction, it is safe and feasible to utilize RAC structures in civil engineering applications. The book will greatly benefit researchers, postgraduates, and engineers in civil engineering with an interest in this field.

Recent Advances in Systems, Control, Signal Processing and Informatics

eMaintenance: Essential Electronic Tools for Efficiency enables the reader to improve efficiency of operations, maintenance staff, infrastructure managers and system integrators, by accessing a real time computerized system from data to decision. In recent years, the exciting possibilities of eMaintenance have become increasingly recognized as a source of productivity improvement in industry. The seamless linking of systems and equipment to control centres for real time reconfiguring is improving efficiency, reliability, and sustainability in a variety of settings. The book provides an introduction to collecting and processing data from machinery, explains the methods of overcoming the challenges of data collection and processing, and presents tools for data driven condition monitoring and decision making. This is a groundbreaking handbook for those interested in the

possibilities of running a plant as a smart asset. Provides an introduction to collecting and processing data from machinery Explains how to use sensor-based tools to increase efficiency of diagnosis, prognosis, and decision-making in maintenance Describes methods for overcoming the challenges of data collection and processing

Bearing Capacity of Roads, Railways and Airfields

This book reports on the latest advances in and applications of memristors, memristive devices and systems. It gathers 20 contributed chapters by subject experts, including pioneers in the field such as Leon Chua (UC Berkeley, USA) and R.S. Williams (HP Labs, USA), who are specialized in the various topics addressed in this book, and covers broad areas of memristors and memristive devices such as: memristor emulators, oscillators, chaotic and hyperchaotic memristive systems, control of memristive systems, memristor-based min-max circuits, canonic memristors, memristive-based neuromorphic applications, implementation of memristor-based chaotic oscillators, inverse memristors, linear memristor devices, delayed memristive systems, flux-controlled memristive emulators, etc. Throughout the book, special emphasis is given to papers offering practical solutions and design, modeling, and implementation insights to address current research problems in memristors, memristive devices and systems. As such, it offers a valuable reference book on memristors and memristive devices for

graduate students and researchers with a basic knowledge of electrical and control systems engineering.

Electromechanical Control Technology and Transportation

This edited volume focuses on research conducted in the area of ergonomic design. Chapters are extensions of works presented at the International Conference on Management of Ergonomic Design, Industrial Safety and Healthcare Systems. The book addresses the need to have the knowledge of ergonomics, human factors engineering and safety engineering in order to make worksystems ergonomically designed, operationally safe and productive. It is a useful resource for students, researchers, industrial professionals, and design engineers.

Pedestrian and Evacuation Dynamics 2012

This volume contains 74 papers presented at SCI 2016: First International Conference on Smart Computing and Informatics. The conference was held during 3-4 March 2017, Visakhapatnam, India and organized communally by ANITS, Visakhapatnam and supported technically by CSI Division V - Education and Research and PRF, Vizag. This volume contains papers mainly focused on applications of advanced intelligent techniques to video processing, medical

imaging, machine learning, sensor technologies, and network security.

Micro-Electronics and Telecommunication Engineering

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. For courses in Image Processing and Computer Vision. Completely self-contained—and heavily illustrated—this introduction to basic concepts and methodologies for digital image processing is written at a level that truly is suitable for seniors and first-year graduate students in almost any technical discipline. The leading textbook in its field for more than twenty years, it continues its cutting-edge focus on contemporary developments in all mainstream areas of image processing—e.g., image fundamentals, image enhancement in the spatial and frequency domains, restoration, color image processing, wavelets, image compression, morphology, segmentation, image description, and the fundamentals of object recognition. It focuses on material that is fundamental and has a broad scope of application.

Proceedings of First International Conference on Information and Communication Technology for Intelligent Systems:

Bearing Capacity of Roads, Railways and Airfields includes the contributions to the 10th International Conference on the Bearing Capacity of Roads, Railways and Airfields (BCRRA 2017, 28-30 June 2017, Athens, Greece). The papers cover aspects related to materials, laboratory testing, design, construction, maintenance and management systems of transport infrastructure, and focus on roads, railways and airfields. Additional aspects that concern new materials and characterization, alternative rehabilitation techniques, technological advances as well as pavement and railway track substructure sustainability are included. The contributions discuss new concepts and innovative solutions, and are concentrated but not limited on the following topics:

- Unbound aggregate materials and soil properties
- Bound materials characteristics, mechanical properties and testing
- Effect of traffic loading
- In-situ measurements techniques and monitoring
- Structural evaluation
- Pavement serviceability condition
- Rehabilitation and maintenance issues
- Geophysical assessment
- Stabilization and reinforcement
- Performance modeling
- Environmental challenges
- Life cycle assessment and sustainability

Bearing Capacity of Roads, Railways and Airfields is essential reading for academics and professionals involved or interested in transport infrastructure systems, in particular roads, railways and airfields.

Sensing Technology: Current Status and Future Trends III

This book contains thirty-five selected papers presented at the International

Conference on Evolutionary and Deterministic Methods for Design, Optimization and Control with Applications to Industrial and Societal Problems (EUROGEN 2017). This was one of the Thematic Conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS). Topics treated in the various chapters reflect the state of the art in theoretical and numerical methods and tools for optimization, and engineering design and societal applications. The volume focuses particularly on intelligent systems for multidisciplinary design optimization (mdo) problems based on multi-hybridized software, adjoint-based and one-shot methods, uncertainty quantification and optimization, multidisciplinary design optimization, applications of game theory to industrial optimization problems, applications in structural and civil engineering optimum design and surrogate models based optimization methods in aerodynamic design.

Advanced Control and Optimization Paradigms for Wind Energy Systems

This book contains a collection of selected works stemming from the 2013 International Conference on Sensing Technology (ICST), which was held in Wellington, New Zealand. The purpose of the book is to distill the highlights of the conference, and therefore track the latest developments in sensing technologies. The book contents are broad, since sensors can be applied in many different areas.

Therefore the book gives a broad overview of the latest developments, in addition to discussing the process through which researchers go through in order to develop sensors, or related systems, which will become more widespread in the future. The book is written for academic and industry professionals working in the field of sensing, instrumentation and related fields, and is positioned to give a snapshot of the current state of the art in sensing technology, particularly from the applied perspective.

Agent and Multi-Agent Systems: Technology and Applications

2012 International Conference on Teaching and Computational Science (ICTCS 2012) is held on April 1-2, 2012, Macao. This volume contains 120 selected papers presented at 2012 International Conference on Teaching and Computational Science (ICTCS 2012), which is to bring together researchers working in many different areas of teaching and computational Science to foster international collaborations and exchange of new ideas. This volume book can be divided into two sections on the basis of the classification of manuscripts considered. The first section deals with teaching. The second section of this volume consists of computational Science. We hope that all the papers here published can benefit you in the related researching fields.

Multiple View Geometry in Computer Vision

This book addresses a range of complex issues associated with condition monitoring (CM), fault diagnosis and detection (FDD) in smart buildings, wide area monitoring (WAM), wind energy conversion systems (WECSs), photovoltaic (PV) systems, structures, electrical systems, mechanical systems, smart grids, etc. The book's goal is to develop and combine all advanced nonintrusive CMFD approaches on a common platform. To do so, it explores the main components of various systems used for CMFD purposes. The content is divided into three main parts, the first of which provides a brief introduction, before focusing on the state of the art and major research gaps in the area of CMFD. The second part covers the step-by-step implementation of novel soft computing applications in CMFD for electrical and mechanical systems. In the third and final part, the simulation codes for each chapter are included in an extensive appendix to support newcomers to the field.

Security and Intelligent Information Systems

This book constitutes the thoroughly refereed post-conference proceedings of the Joint Meeting of the 2nd Luxembourg-Polish Symposium on Security and Trust and the 19th International Conference Intelligent Information Systems, held as International Joint Conference on Security and Intelligent Information Systems,

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SIIS 2011, in Warsaw, Poland, in June 2011. The 29 revised full papers presented together with 2 invited lectures were carefully reviewed and selected from 60 initial submissions during two rounds of selection and improvement. The papers are organized in the following three thematic tracks: security and trust, data mining and machine learning, and natural language processing.

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