

Results 2023

Process Monitoring and Fault Diagnosis Based on Multivariable Statistical Analysis

This book reports the developments of the Total Least Square (TLS) algorithms for parameter estimation and adaptive filtering. Specifically, this book introduces the authors' latest achievements in the past 20 years, including the recursive TLS algorithms, the approximate inverse power iteration TLS algorithm, the neural based MCA algorithm, the neural based SVD algorithm, the neural based TLS algorithm, the TLS algorithms under non-Gaussian noises, performance analysis methods of TLS algorithms, etc. In order to faster the understanding and mastering of the new methods provided by this book for readers, before presenting each new method in each chapter, a specialized section is provided to review the closely related several basis models. Throughout the book, large of procedure of new methods are provided, and all new algorithms or methods proposed by us are tested and verified by numerical simulations or actual engineering applications. Readers will find illustrative demonstration examples on a range of industrial processes to study. Readers will find out the present deficiency and recent developments of the TLS parameter estimation fields, and learn from the the authors' latest achievements or new methods around the practical industrial needs. In my opinion, this book can be assimilated by advanced undergraduates and graduate (PH.D.) students, as well as statisticians, because of the new tools in data analysis, applied mathematics experts, because of the novel theories and techniques that we propose, engineers, above all for the applications in control, system identification, computer vision, and signal processing.

A Games Changer

From the emergence of the COVID pandemic in early 2020 through the delayed staging of the Tokyo Olympic games in summer 2021, *A Games Changer* takes the reader behind the scenes to explore the myriad challenges the International Olympic Committee (IOC) and Japanese officials faced during the months of uncertainty leading up not only to the postponement of the Games but also to their delayed. Drawing on a thorough review of contemporary newspaper and magazine coverage as well as personal interviews with current and former IOC officials, Stephen R. Wenn and Robert K. Barney examine Japan's rising excitement in 2019 as preparations for the Games accelerated; whispers of a mysterious disease spreading first in China, then worldwide; organizers' initial resolve to press forward with the Games; the tumultuous discussions that ultimately resulted in the joint March 2020 decision by Japanese Prime Minister Shinzo Abe and IOC President Thomas Bach to postpone the Games; and the numerous negotiations with venues, media, and sponsors required to extend contracts and protect all parties' health. Wenn and Barney reveal how human relationships—among planners, politicians, competitors, and vaccine researchers—were vital to presenting an Olympics where, in July and August 2021, world records were set, deferred dreams were achieved, and fears of a superspreader event went unrealized. While tracing the struggles of multiple athletes who had to pause their Olympic hopes and training as COVID-19 closed the world, Wenn and Barney focus on the journey of Canadian decathlete Damian Warner and his coach, Gar Leyshon. Denied his usual training venues, he prepared for the rescheduled Games with ingenuity, determination, and adaptability, reflective of the resilience demonstrated by Tokyo's Olympians around the globe. The authors' close account of Warner's two days in Tokyo recaptures the excitement and drama of sport that home viewers sorely needed amid pandemic lockdowns and incalculable personal loss.

Proceedings of the Rocscience International Conference 2023 (RIC2023)

This is an open access book. Rocscience is delighted to announce the Rocscience International Conference 2023 (RIC2023), an in-person gathering to be held from April 24–26, 2023, in Toronto, Canada. RIC2023's

primary objective is to bring geotechnical professionals together to meet and exchange ideas on important issues and developments in geotechnical engineering, particularly combinations of emerging and mature technologies. The geotechnical industry is rapidly evolving. Engineers are more connected through technology, technology is becoming more integrated than ever, and methods combining these technologies are becoming more prevalent. This movement towards combining technologies led us to the conference theme, “Synergy in Geotechnical Engineering – Success Beyond Individual Technologies.” We believe the time is right to highlight how far the industry has come with various technologies and continues to develop. The conference aims to create an environment that fosters new perspectives and helps attendees delve deeper into innovative approaches. During RIC2023, Rocscience will award the 2023 Lifetime Achievement Medal to Dr. Norbert Morgenstern, an internationally recognized authority in the engineering community. As both a practitioner and educator, Dr. Morgenstern’s contributions to the geotechnical community continue to benefit engineers worldwide, and he will give an address on his career. In addition to keynotes by Dr. Morgenstern and four other distinguished speakers, there will be several technical and networking sessions.

Democratic Republic of São Tomé and Príncipe

The people of São Tomé and Príncipe (STP), a small fragile island state, have faced extraordinary challenges. STP continues to struggle with high fuel import needs, limited export potential, and depleted international reserves, and faced a massive balance of payments (BOP) shock in early 2023, which opened a large external financing gap. Inflation was stubbornly high in 2023 and the economy barely grew, dragged down by foreign exchange and energy shortages, as well as a large fiscal adjustment. Growth is projected to remain sluggish in 2024, while inflation has started to decline.

Vaccine Education and Promotion

Vaccination plays a crucial role in controlling and significantly eradicating many diseases. It reduces the burden of illness and saves countless lives worldwide. Vaccination is an essential tool in public health, directly impacting several Sustainable Development Goals (SDGs) as it contributes to better education (SDG 4), healthier populations (SDG 3), lower poverty (SDG 1) and hunger (SDG 2), and cleaner water and sanitation (SDG 6). Misconceptions about vaccines can lead people to distrust vaccination effectiveness or safety. Such misconceptions are often spread through word of mouth, social media, or alternative health communities. Therefore, “vaccine education and promotion” is crucial to inform and encourage people to vaccinate by providing accurate scientific information and implementing vaccination programs, emphasizing their benefits, safety, and importance in preventing infectious diseases. This Research Topic focuses on new developments in “vaccine education and promotion” in several settings, such as schools, workplaces, and communities, as well as through traditional press media and social media. We aim to include studies of public health campaigns, school health activities, production of vaccine educational materials, community outreach, and diverse communication to address concerns or misinformation about vaccines. The goal is to find ways of increasing vaccine rates and promoting public health by ensuring people make informed decisions about their health and the health of their communities. This Research Topic welcomes the submission of manuscripts focused on “vaccine education and promotion” that, among others, can address the following: • Diverse strategies for vaccine education and promotion, including but not limited to several settings (schools, workplaces, communities, etc) and traditional press media and social media; • Gender issues and health inequalities related to vaccination; • Emphasis on the underlying framework/program theory, the planning, the implementation process, and the evaluation of the vaccination promotion initiative; • Vaccine education and promotion initiatives' impact and lessons; • Active ingredients, favorable conditions and specific competencies for successful vaccine-promoting initiatives.

Promoting Health and Academic Success

Promoting Health and Academic Success was the first book to cover the Whole School, Whole Community, Whole Child (WSCC) model, now a widely accepted framework for promoting health and learning in

schools. With increasing evidence that health and academic success go hand in hand, this second edition delves deeper into the WSCC approach to showcase best practices that truly put the child at the center of health and education. *Promoting Health and Academic Success, Second Edition With HKPropel Access*, boasts a team of editors and contributors who have experience as leaders in school health and WSCC at the national, state, and local levels. It provides direction for educators, school health professionals, and health agencies interested in promoting student health, diversity, equity, inclusion, and advocacy for the planning, implementation, and evaluation of the WSCC approach. The second edition has been updated to incorporate the knowledge and experiences that have been gained since the first edition of the book: Discussion of new challenges for schools and communities such as COVID-19, school safety, and curriculum and programming decisions related to social justice and racism Real-world examples to provide practice and multiple perspectives on WSCC Application activities and case studies that engage students in applied learning within the context of WSCC simulations Related online learning tools, delivered in HKPropel, including review items, and project-based assignments Perspectives from WSCC leaders related to current practice and future WSCC considerations This resource is a must-have for the planning, implementation, and evaluation of initiatives designed to promote education and health for students through meaningful engagement of family members, community members, and school faculty and staff members. The coordinated initiatives presented in *Promoting Health and Academic Success: The WSCC Approach, Second Edition*, provide a valuable resource for educators, community health practitioners, and other stakeholders engaged in promoting health and academic success for school-age children. Note: A code for accessing HKPropel is not included with this ebook but may be purchased separately.

Proficiency testing in Histocompatibility and Immunogenetics: current status and future perspectives

Proficiency testing (PT) has been part of Immunogenetics since its early days. Starting from spontaneous interlaboratory comparisons, it gradually moved to more elaborate quality control exercises. Immunogenetics PT finally evolved into a formalized system comprising a range of testing schemes, the rules of which have been fine-tuned and approved with the assistance of professional societies. Current external PT (EPT) schemes offer to survey laboratory performance in all spectra of Histocompatibility and Immunogenetics (H & I) applications, ranging from HLA typing at various resolution levels, to detection and identification of HLA antibodies and crossmatching, to name the most sought categories. Successful performance in EPT has been considered a prerequisite to laboratory accreditation. EPT has been vital to patient care by ensuring valid, clinically relevant typing data is obtained according to recognized standards. In prevailing opinion, participation in EPT contributes to increased laboratory organization and enhanced lab-wide comprehension of the significance of laboratory work in clinical settings. Secondly, experience with proficiency testing may help raise scientific research quality by emphasizing data validity. The Editors invite all members of histocompatibility and immunogenetics communities, who have been involved in various aspects of PT, to submit manuscripts: - describing the state of the art of H & I PT, - surveying options available for interested laboratories in diverse continents/regions, - reporting the experiences of PT participants and/or PT providers, - assessing the awareness of, and/or states of, PT issues in the community, etc. - Proposing new areas for PT in H & I. Opinion and Perspective articles discussing the future of Proficiency testing are welcome, along with reviews and original manuscripts. Contributions may be based on solid research data; however, a personal reflection of experience from participation in or organizing a PT scheme would be also interesting to readers and welcomed by The Editors.

Recent Advancements in Tourism Business, Technology and Social Sciences

The book features the first volume of the proceedings of the 10th International Conference of the International Association of Cultural and Digital Tourism (IACuDiT), with the theme “Recent Advancements in Tourism Business, Technology, and Social Sciences,” which was held from August 29 to 31, 2023, in Crete, Greece. It showcases the latest research on Tourism Business, Technology, and Social Sciences and presents a critical academic discourse on smart and sustainable practices in the tourism industry, stimulating

future debates and advancing readers' knowledge and understanding of this critical area of tourism business in the post-COVID-19 era. COVID-19 produced dramatic effects on the global economy, business activities, and people, with tourism being particularly affected. The book discusses the resulting digital transformation process in a range of areas, including its effect on the social sciences combined with special forms of tourism. This accelerated digitalization encourages the emergence of new digital products and services based on the principle of flexibility. The book focuses on the knowledge economy and smart destinations, as well as new modes of tourism management and development, and includes chapters on emerging technologies such as the Internet of Things, artificial intelligence, big data, and robotics in connection with various tourism practices.

Evolving Strategies for Organizational Management and Performance Evaluation

In today's business landscape, organizations recognize the importance of new strategies for effective management and performance evaluation. Traditional approaches to leadership and performance assessments are no longer sufficient in addressing the complex challenges and opportunities presented by rapid technological advancements, globalization, and shifting workforce expectations. As such, organizations are adopting more adaptive, data-driven, and employee-centric strategies to improve performance, foster innovation, and ensure sustainable growth. By embracing new methodologies in management and performance evaluation, companies can better align their goals with emerging trends, optimize productivity, and create a more agile, resilient organizational culture. *Evolving Strategies for Organizational Management and Performance Evaluation* explores the evolving strategies and theories behind organizational management and performance evaluation. It covers advanced management methodologies, focusing on practical approaches to improving organizational structures and evaluating employee performance. This book covers topics such as small and medium enterprises, management science, and employee performance, and is a useful resource for business owners, managers, computer engineers, academicians, data scientists, and researchers.

Insights in Coronary Artery Disease: 2023

We are now entering the third decade of the 21st Century, and, especially in the last years, the achievements made by scientists have been exceptional, leading to major advancements in the fast-growing field of coronary artery disease. Frontiers has organized a series of Research Topics to highlight the latest advancements in research across the field of cardiovascular medicine, with articles from members of our accomplished Editorial Boards. Led by Prof Tommaso Gori, Specialty Chief Editor of coronary artery disease section, this Research Topic is focused on new insights, novel developments, current challenges, latest discoveries, recent advances, and future perspectives in the field of coronary artery disease.

Government at a Glance: Latin America and the Caribbean 2024

The 2024 edition of *Government at a Glance Latin America and the Caribbean* provides the latest available evidence on public administrations and their performance in the LAC region and compares it to OECD countries.

Peer Review of the Automatic Exchange of Financial Account Information 2024 Update

The Global Forum on Transparency and Exchange of Information for Tax Purposes (Global Forum) is a multilateral framework for tax transparency and information sharing, within which over 170 jurisdictions participate on an equal footing. The Global Forum monitors and peer reviews the implementation of the international standards of Exchange of Information on Request (EOIR) and Automatic Exchange of Information (AEOI). The standard on AEOI of financial accounts provides for the automatic exchange of a predefined set of financial account information between tax authorities on an annual basis to assist them in ensuring the correct amount of tax is paid. To ensure it is fully effective, the Global Forum carries out a review of each jurisdiction's domestic and international legal frameworks to ensure they are complete, as

well as a review of the effectiveness of their implementation of the standard in practice. The report presents the latest conclusions of the peer reviews of the legal frameworks put in place by jurisdictions. It supplements the legal frameworks assessments and initial reviews of the effectiveness of their implementation in practice published in 2022 and 2023 for over 100 jurisdictions that were first to commit to commence AEOI. It also contains the results of the initial peer reviews on the effectiveness in practice of the implementation of the standard by jurisdictions commencing exchanges in 2020.

Inclusivity and Accessibility in Digital Health

The persistent challenge of inequitable access to quality services plagues diverse age groups, creating a glaring gap in our pursuit of inclusive well-being. Despite the revolutionary strides in digital health and artificial intelligence (AI), the promise of universal accessibility remains unfulfilled. The disparities demand a comprehensive understanding of obstacles hindering inclusivity, setting the stage for a transformative solution. *Inclusivity and Accessibility in Digital Health* is a groundbreaking exploration that is a beacon of change in the healthcare narrative. This book transcends conventional boundaries, offering innovative frameworks, case studies, and empirical research. It delves into the transformative potential of AI and digital health, presenting actionable insights to tailor healthcare services, manage diseases, and elevate overall well-being. Aligned with the United Nations Sustainable Development Goals, this book inspires researchers, healthcare professionals, policymakers, and tech enthusiasts to harness the power of technology for an inclusive healthcare revolution.

Latin American Economic Outlook 2023 Investing in Sustainable Development

Latin America and the Caribbean needs an ambitious and comprehensive investment agenda to embark on a stronger and more sustainable development trajectory. The 16th edition of the Latin American Economic Outlook proposes ways to make this possible through co-ordinated actions by policy makers, the private sector and international partners.

Discrepant Results in Mental Health Research

Discrepant results are the most common results of mental health research, and may even occur multiple times in a single study. But what do discrepant results mean? How are researchers to make sense of them? Do they tell us something important about mental health, and if they do, how would we know? *Discrepant Results in Mental Health Research* challenges all that we think we know about mental health.

Electronic Discovery: Law and Practice, 3rd Edition

Information that is crucial to your case can be stored just about anywhere in Blackberries, on home computers, in cellphones, in voicemail transcription programs, on flash drives, in native files, in metadata... Knowing what you're looking for is essential, but understanding technology and data storage systems can literally make or break your discovery efforts and your case. If you can't write targeted discovery requests, you won't get all the information you need. With *Electronic Discovery: Law and Practice, Third Edition*, you'll have the first single-source guide to the emerging law of electronic discovery and delivering reliable guidance on such topics as: Duty to Preserve Electronic Evidence Spoliation Document Retention Policies and Electronic Information Cost Shifting in Electronic Discovery Evidentiary Issues Inadvertent Waiver Table of State eDiscovery rules Litigation Hold Notices Application of the Work Product Doctrine to Litigation Support Systems Collection, Culling and Coding of ESI Inspection of Hard Disks in Civil Litigation Privacy Concerns Disclosure under FOIA Fully grasp the complexities of data sources and IT systems as they relate to electronic discovery, including cutting-edge software tools that facilitate discovery and litigation. Achieve a cooperative and efficient approach to conducting cost-effective ESI discovery. Employ sophisticated and effective discovery tools, including concept and contextual searching, statistical sampling, relationship mapping, and artificial intelligence that help automate the discovery process, reduce

costs and enhance process and information integrity Written by Adam Cohen of Ernst & Young and David Lender of Weil, Gotshal & Manges LLP, *Electronic Discovery: Law and Practice*, Third Edition offers detailed analysis and guidance on the legal aspects of electronic discovery never before collected in such a comprehensive guide. You'll save time on research while benefiting from the knowledge and experience of the leading experts. Note: Online subscriptions are for three-month periods. Previous Edition: *Electronic Discovery: Law & Practice*, Second Edition, ISBN 9781454815600

Green Accounting and Digitalization of E-Business for Sustainable Development

Green accounting and digitalization are promising vectors of the sustainable development of e-business, modernizing the experience of e-business. They enhance sustainable development in various sectors of the economy, including agriculture, energy, higher education, and logistics. They also contribute to the sustainable development of international territories. As a result, the practice of sustainable development management may be improved through systemic digitalization and green accounting, bridging the gap between technological modernization and the ecologization of e-business activities. *Green Accounting and Digitalization of E-Business for Sustainable Development* discusses the international experience of digitalization and green accounting of e-business. It offers a comprehensive scientific concept of digital technologies for green accounting automation and sustainable development practices in e-business. Covering topics such as forecasting tools, investment attractiveness, and decarbonization, this book is an excellent resource for business managers, sustainability experts, regulators, policymakers, accountants, researchers, academicians, and more.

Cybernetics and Control Theory in Systems

Addressing key issues in modern cybernetics and informatics, this book presents vital research within networks and systems. It offers an extensive overview of the latest methods, algorithms, and design innovations. This book compiles the meticulously reviewed proceedings of the Networks and Systems in Cybernetics session of the 13th Computer Science Online Conference 2024 (CSOC 2024), held virtually in April 2024.

Exploring the Influence of Gut Microbiome on Human Health: Mechanistic Insights from Pig Models

The microbiome plays an indispensable role in our health. Pathophysiological alterations in the gut microbiota has been linked with the development and maintenance of non-communicable diseases, such as obesity, cancer, type 2 diabetes mellitus, cardiovascular diseases, and metabolic syndrome. In order to better investigate the interactions between human health/disease and microbiota and given the practical and ethical complexity of performing invasive sampling procedures in human subjects, different types of animal models have been developed and are frequently used to investigate the multiple dynamics of host–microbiome interactions. Due to the similar organ size and similar metabolic characteristics of pigs and humans, pigs are considered to be a more suitable model for basic biomedical research studies and for studying human-related metabolic diseases than rodents. The anatomical characters, physiological traits, genetics and biochemical indices of pigs are similar to what is reported in humans, thus, pig can be used as a model animal to characterize human gut microbiota and for studying several human diseases. The swine intestinal tract harbours trillions of diverse microorganisms, which get involved in regulating host nutrient digestion, energy absorption, and disease development, and is considered to be one of the main model animal of human obesity and disease research. Since the gastrointestinal organs of pigs are closer to humans, we also use pigs as a model for studying the role of functional foods in intestinal pathophysiology and related indicators of the physical barrier, biochemical barrier, immunological barrier and gut microbiota. Pigs are also the best animal models for exploring the mechanisms underlying human nutrient digestion and absorption, metabolism, and disease treatment. Large animal models such as piglets have been also used to study neonatal diet impact on gut, microbiota and immune system. Pigs and piglets are also convenient models for exploring avenues for

developing novel microbial therapies. Pigs and piglets represent hence some of the most widely used animal models for studying the impact of microbiota on its host, and for exploring the dynamics of host–gut microbiome interactions and the roles of human gut microbiota in human health and disease development.

Computer Vision and Machine Intelligence for Renewable Energy Systems

Computer Vision and Machine Intelligence for Renewable Energy Systems offers a practical, systemic guide to the use of computer vision as an innovative tool to support renewable energy integration. This book equips readers with a variety of essential tools and applications: Part I outlines the fundamentals of computer vision and its unique benefits in renewable energy system models compared to traditional machine intelligence: minimal computing power needs, speed, and accuracy even with partial data. Part II breaks down specific techniques, including those for predictive modeling, performance prediction, market models, and mitigation measures. Part III offers case studies and applications to a wide range of renewable energy sources, and finally the future possibilities of the technology are considered. The very first book in Elsevier's cutting-edge new series *Advances in Intelligent Energy Systems*, *Computer Vision and Machine Intelligence for Renewable Energy Systems* provides engineers and renewable energy researchers with a holistic, clear introduction to this promising strategy for control and reliability in renewable energy grids. - Provides a sorely needed primer on the opportunities of computer vision techniques for renewable energy systems - Builds knowledge and tools in a systematic manner, from fundamentals to advanced applications - Includes dedicated chapters with case studies and applications for each sustainable energy source

Sustainable Aviation Fuels

This volume *E-Learning and Enhancing Soft Skills* is a collection of articles by participants of the 16th annual scientific international conference “Theoretical and Practical Aspects of Distance Learning: E-Learning and Enhancing of Soft Skills. This conference, held on the 14th and 15th October 2024 in hybrid mode, is organized by the Faculty of Arts and Educational Sciences in Cieszyn, the Faculty of Social Sciences, the Institute of Pedagogy, the Faculty of Science and Technology, the Institute of Computer Science, University of Silesia in Katowice, Poland. Co-organizers and partners included: University of Ostrava (UO), Czech Republic, Silesian University in Opava (SU), Czech Republic, Constantine the Philosopher University in Nitra (UKF) Slovakia, University of Extremadura (UEX), Spain, University of Twente (UT), The Netherlands, Lisbon Lucíada University (LU), Portugal, Curtin University in Perth (CU), Australia, Borys Grinchenko Kyiv University (BGKU), Ukraine, Dniprovsk State Technical University (DSTU), Ukraine, IADIS - International Association for Development, of the Information Society, a non-profit association, Polish Pedagogical Society, Branch in Cieszyn, Polish Scientific Society for Internet Education, Association of Academic E-learning, Poland. Experts on e-learning from different countries provide insights into their studies, present their recent research results and discuss their further scientific work. The authors include experts, well-known scholars, young researchers, highly trained academic lecturers with long experience in the field of e-learning, AI and robotics in education, MOOCs, teacher training an area digutak and soft skills, m-learning, smart technologies, VR/AR; PhD students, distance course developers, authors of multimedia teaching materials, designers of websites and digital educational resources. This monograph therefore describes the theoretical, methodological and practical issues in the field of e-learning and the developing of key competencies and soft skills, contemporary models of education in the era of artificial intelligence, proposing solutions to important problems and showing the road to further research in this field. Built from the findings of an international retinue of scholars, this work will be of particular interest to academic researchers, educators, courseware designers, corporate trainers, and educational technology practitioners.

Proceedings of the 25th European Conference on Knowledge Management

This prescient Encyclopedia outlines the breadth and depth of the burgeoning field of energy economics. Entries cover a wide range of topics including traditional and renewable energy sources, environmental

impacts, energy efficiency, market structures and the economic implications of energy transitions. This title contains one or more Open Access chapters.

E-Learning and Enhancing Soft Skills

This book offers a thorough examination of frailty, covering its complexity through sections on foundational concepts, pathogenesis research, assessment methods, management strategies, care settings, its relation to other chronic conditions, and societal implications. It provides a deep understanding of frailty's scientific basis, advanced assessment tools, innovative management, and prevention approaches, and examines frailty within diverse care settings and in relation to other health conditions. By integrating multidisciplinary insights, it presents a holistic view of frailty, addressing its clinical, societal, and policy-related aspects, aiming to enhance well-being and inform clinical practitioners, educators, and policymakers. This book can serve as a reference guide with up-to-date information on frailty in older adults for geriatric medicine physicians, primary care clinicians, geroscience researchers, nurses, therapists (OT, PT, ST), and social workers.

Elgar Encyclopedia of Energy Economics

Artificial intelligence (AI) in medicine is rising, and it holds tremendous potential for more accurate findings and novel solutions to complicated medical issues. Biomedical AI has potential, especially in the context of precision medicine, in the healthcare industry's next phase of development and advancement. Integration of AI research into precision medicine is the future; however, the human component must always be considered. *Explainable Artificial Intelligence in Medical Imaging: Fundamentals and Applications* focuses on the most recent developments in applying artificial intelligence and data science to health care and medical imaging. Explainable artificial intelligence is a well-structured, adaptable technology that generates impartial, optimistic results. New healthcare applications for explicable artificial intelligence include clinical trial matching, continuous healthcare monitoring, probabilistic evolutions, and evidence-based mechanisms. This book overviews the principles, methods, issues, challenges, opportunities, and the most recent research findings. It makes the emerging topics of digital health and explainable AI in health care and medical imaging accessible to a wide audience by presenting various practical applications. Presenting a thorough review of state-of-the-art techniques for precise analysis and diagnosis, the book emphasizes explainable artificial intelligence and its applications in healthcare. The book also discusses computational vision processing methods that manage complicated data, including physiological data, electronic medical records, and medical imaging data, enabling early prediction. Researchers, academics, business professionals, health practitioners, and students all can benefit from this book's insights and coverage.

Frailty

This book constitutes of the revised selected papers from the 4th International Conference on Society 5.0, Society 5.0 2024, held in Moka, Mauritius, during June 26-28, 2024. The 29 full papers presented in this book were thoroughly reviewed and selected from a total of 76 qualified submissions. These papers discuss the various challenges and opportunities for a Society 5.0 in different areas, including Business Information Systems, Innovation and Entrepreneurship, Diversity, Innovation in the Digital Age, Healthcare and Care Systems, Information Security, Mobility, Human-System Interaction Scenarios, Fintech & International Collaborations.

Explainable Artificial Intelligence in Medical Imaging

This book is proposed to be a collection of excellently peer-reviewed research from the 2023 14th International Conference on Environmental Science and Development (ICESD 2023), which will be held during May 25-27, 2023, in Xiamen, China. ICESD 2023 will gather innovative academics and industrial experts to a common forum to facilitate the exchange of scientific information and its application in the field

of Environmental Science and Sustainable Development. Particularly, a large amount of the research is related to the Water Governance Programme which is an initiative as developed by the China International Center for Economic and Technical Exchanges, United Nations Development Programme, and Coca-Cola China. Recently, effects of energy crisis, water scarcity, environmental pollution, climate change, COVID-19 pandemic, and their interactions on eco-environment and health have caused extraordinary risks in socio-economic and environmental systems (SEE). Such risks feature dynamic, uncertain, and interactive characteristics. In order to tackle these risks, cutting-edge technologies, including both experimental approaches and modeling ones, are desired urgently. Particularly, nature-based solutions will be developed to help achieve net-zero emission and United Nations Sustainable Development Goals. In addition, data-driven and AI-based methodologies will be developed to facilitate policy analysis of SEE under New Normal scenarios. Furthermore, the combinations of multiple approaches are expected to support the enhancement of SEE resilience in a post-pandemic future. Consequently, ICESD 2023 will include presentations in the field of Water Resources Management, Wastewater Treatment, Drinking Water Safety, Energy and Environmental Systems Analysis, Air Pollution Control, Solid Waste Management, Sustainable Development, Ecosystem Restoration, Climate Change Adaptation, and Socio-economic and Environmental Management. Excellent papers related to these topics would be enclosed in this proposed book.

Society 5.0

The Routledge Handbook of Artificial Intelligence and Philanthropy acts as a catalyst for the dialogue between two ecosystems with much to gain from collaboration: artificial intelligence (AI) and philanthropy. Bringing together leading academics, AI specialists, and philanthropy professionals, it offers a robust academic foundation for studying both how AI can be used and implemented within philanthropy and how philanthropy can guide the future development of AI in a responsible way. The contributors to this Handbook explore various facets of the AI?philanthropy dynamic, critically assess hurdles to increased AI adoption and integration in philanthropy, map the application of AI within the philanthropic sector, evaluate how philanthropy can and should promote an AI that is ethical, inclusive, and responsible, and identify the landscape of risk strategies for their limitations and/or potential mitigation. These theoretical perspectives are complemented by several case studies that offer a pragmatic perspective on diverse, successful, and effective AI?philanthropy synergies. As a result, this Handbook stands as a valuable academic reference capable of enriching the interactions of AI and philanthropy, uniting the perspectives of scholars and practitioners, thus building bridges between research and implementation, and setting the foundations for future research endeavors on this topic. The Open Access version of this book, available at <http://www.taylorfrancis.com>, has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives (CC-BY-NC-ND) 4.0 license.

14th International Conference on Environmental Science and Development (ICESD2023)

The term ‘intelligent environment’ (IE) refers to a physical space that is enhanced by digital technologies. Such environments are designed to improve the quality of life of the people who live or work in them, and are equipped with technologies such as sensing systems and artificial intelligence which can detect changes in the environment, anticipate user requirements, and provide personalized services and experiences to users. This book presents papers from Workshops held during the first two days of IE2023, the 19th International Conference on Intelligent Environments, held in Mauritius between 27 and 30 June 2023, with an online participation available for those who could not travel to the island. The papers are grouped under the headings of the various workshops: the 12th International Workshop on the Reliability of Intelligent Environments (WoRIE’23); the 3rd International Workshop on Artificial Intelligence and Machine Learning for Emerging Topics (ALLEGET’23); the 3rd International Workshop on Self-Learning in Intelligent Environments (SeLIE’23); the 2nd International Workshop on Edge AI for Smart Agriculture (EAISA’23); and the 12th International Workshop on Intelligent Environments Supporting Healthcare and Well-being (WISHWell’2023), and represent a diverse array of cutting-edge research reflective of this exciting area of

study. The book offers an overview of the latest and most exciting developments in intelligent-environments research, and will be of interest to all those working in the field.

The Routledge Handbook of Artificial Intelligence and Philanthropy

You've Never Seen What You've Always Needed to Know – Until Now Invisible forces are at work. They push and shove on everything you buy or sell. They affect every concept you want to take to market, all the suppliers you'll deal with, and every customer you'll ever see. To be successful, you need to understand them. See them in detail in ways not possible with other methods. *Hypernomics: Using Hidden Dimensions to Solve Unseen Problems* discovers that markets behave according to previously unknown laws set by the buyers and sellers within them. It reveals those rules and how to detect, describe, and deploy them to your advantage. It doesn't change economics so much as reveal it. It's like a microscope looking at pond water, a telescope tilted to the sky, sonar scanning the bottom of the ocean. *Hypernomics* lets you see into markets in ways you can't with the unaided eye. Sailors never navigate without a map. You shouldn't either, since your ship could wind up on the rocks. *Hypernomics* gives you the means to create market maps that show you where they have openings and how to fill them by giving customers what they want, don't have, and can afford. It finds their thresholds and limits and responses to every possible feature in any product you can offer. The interactions *Hypernomics* describes have been with us since the dawn of humanity. Now you can finally see them and enjoy the advantages your competitors do not have. Validated by 13 published papers, multiple awards, a patent, and customers such as NASA, Lockheed Martin, Virgin Galactic, and a restaurant down the street, only *Hypernomics* gives you the ability to solve problems as varied as How could a restaurant increase revenue by 25% by rearranging seating? How do you find, describe, and capitalize on open spaces in your market? What happens when an NFL player decreases his forty-yard dash time by a quarter of a second? If you tried to exceed a market's limitations, how could you lose \$1B? How do markets change over time? Know what you need to. Discover *Hypernomics*.

Workshop Proceedings of the 19th International Conference on Intelligent Environments (IE2023)

Over the last half century, the fire of American innovation has grown dim. There have been no lunar bases, no cures for cancer, and no energy too cheap to meter. Not only have we failed to achieve these futuristic visions, but we are struggling with more fundamental challenges. Transportation speeds stagnated, energy consumption peaked, life expectancy plateaued, construction takes longer and costs more, educational systems are failing, and healthcare costs are skyrocketing. Where did our bright future go and how do we get back to it? The answer to those two questions are found in the three pillars of American society: the government, private business, and individuals. Government regulations have crippled progress and stifled innovation. Private companies have grown more bureaucratic, prioritizing short term financial gains to longer term progress. American individuals have relinquished values like discipline, merit, and a strong work ethic. By rebuilding these three pillars, this book charts a course to reignite American innovation and take us back to the future we are capable of.

Hypernomics

This book introduces major themes surrounding comparative and international education, giving you a nuanced understanding of key debates, and thinkers, and the tools necessary to conduct comparisons using secondary sources. Social, economic, historical, and cultural factors are examined in order to investigate the varied contexts in which education takes place around the globe. This new edition includes: New case studies touching on contemporary issues from decolonising the curriculum to the impact of the Covid-19 pandemic on education A new introduction outlining the features of the book and how to use them Updated educational data from around the world and new links to external resources Dr Jennifer Marshall is Senior Lecturer in Education at the University of Derby.

Back to the Future

This book analyzes how the use of digital media by young children can affect their development. Children are starting to use digital media at an earlier age and this use is increasing. With the adoption of technology moving so quickly, research in the area also needs to evolve, and new theoretical and methodological approaches are needed. This book aims to contribute to this field of study by presenting new theoretical frameworks and methodological approaches to help advance research; by discussing results of empirical studies carried out with young children and their caregivers; and by proposing possible interventions to help parents and caregivers better oversee their children's digital media use. Chapters in this volume are divided into five parts. The first part is dedicated to discussing theoretical and methodological issues involved in the study of digital media use by young children. The second part presents empirical studies that investigate the potential impacts of digital media use in child development. The third part brings together studies analyzing digital media use and early child development during the COVID-19 pandemic. Chapters in the fourth part analyze how digital media use affects parenthood. And the fifth and final part presents proposals of educational interventions to help parents and caregivers oversee their young children's digital media consumption. *Digital Media and Early Child Development: Theoretical and Empirical Issues* will be of interest to different kinds of researchers and practitioners working with child, family and media studies. Researchers in the fields of developmental psychology and media studies will find innovative theoretical and methodological proposals to study how young children interact with digital media. While child and family psychologists, social workers and pediatricians will find useful information to understand when digital media use can cause problems to children and their families.

Introduction to Comparative and International Education

This book aims to capture the interest of researchers and professionals in information technology, computer science, and mathematics. It covers fundamental and advanced concepts related to intelligent computing paradigms, data sciences, graph theory, and mathematical modeling. In high-performance computing, the need for intelligent, adaptive computing mechanisms and the integration of mathematical modeling in computational algorithms is becoming increasingly significant. Serving as a valuable resource for industry professionals, this book also supports beginners in gaining insights into enhanced computing paradigms and mathematical concepts, from foundational to advanced levels. Our objective is to provide a platform for researchers, engineers, academicians, and industry experts worldwide to share their findings on emerging trends. The authors believe this book not only presents innovative ideas but also fosters engaging discussions and inspires new perspectives.

Digital Media and Early Child Development

This comprehensive book is specially developed for the candidates of National Means Cum Merit Scholarship Exam (For Class VIII). This book includes Study Material & Previous Papers for the purpose of practice of questions based on the latest pattern of the examination. Detailed Explanatory Answers have also been provided for the selected questions for Better Understanding of the Candidates

Proceedings of 4th International Conference on Mathematical Modeling and Computational Science

This is an open access book. Praise for almighty God for giving us healthy and opportunity to carry out the Seminar and Workshop on Public Health Action. This event provides forums for disseminating and exchanging multidisciplinary research results in public health action. It covers all aspects of public health sciences, such as health literacy and health promotion, health system management, disease prevention, health care, health management, health informatics system, epidemiology, environment and occupational health, epidemiology, reproductive and sexual health, others specific health theme as well. This is the appropriate forum for professionals to discuss how to transfer knowledge into action since public health is about how to

make people have adequate healthy behavior. This forum also provides workshop in action research and side meeting in health literacy. The paper presentation has solicited and gathered research submission related to all aspects of the seminar scope. All the submitted papers in proceeding were peer-reviewed by at least three international experts drawn from program committee scope. After the rigorous peer-review process, a total of 39 paper and abstract were reviewed on the basis of originality, significance, and clarity and were accepted for publication in the proceeding. The authors were from provinces in Indonesia and others countries; Thailand, Taiwan, and Korea. The interesting ideas can be found when reading the contents of proceeding and will inspire participant to bring the theories of public health into action. The program has prepared well to favor interactions among attendance coming from different background.

NMMS Exam Guide for (8th) Class VIII

Groundwater is a valuable source of freshwater in coastal areas. The groundwater flux in coastal aquifers generally occurs in two processes: seawater intrusion (SWI) and submarine groundwater discharge (SGD). SWI, the subsurface movement of seawater into freshwater aquifers, is a natural phenomenon in coastal areas. As a result of SWI, the salinity of groundwater in the aquifer increases, thereby reducing the availability of freshwater in coastal areas. The total efflux (including fresh groundwater and circulating seawater) to the sea is commonly referred to as SGD. SGD is an important source of freshwater, nutrients, metals, and carbon to the ocean, thereby affecting coastal water quality and ecosystems. The study of the hydrological behaviors of these two processes in coastal aquifers is beneficial for the sustainable management of marine and groundwater resources in coastal areas.

Proceedings of the International Seminar and Workshop Public Health (ISWHOPHA 2023)

This Global Health Strategy for 2025-2028, WHO's fourteenth General Programme of Work (GPW 14), sets a high-level road map for global health and to the Secretariat's work in support of Member States and partners for the 4-year period to reinvigorate actions needed to get the health-related Sustainable Development Goals on track, while future-proofing health and care systems for the post-SDG era. The overarching vision for GPW14 is to promote, provide and protect the health and well-being of all people, everywhere.

Impact of Ocean Forcing on the Coastal Hydrology, Environment and Freshwater Resources

As technology increasingly permeates our everyday lives, the traditional educational landscape is experiencing a dynamic shift. The rapid development of artificial intelligence (AI) and immersive technologies has introduced unprecedented possibilities for education, making this an exciting yet challenging time for educators, researchers, and students alike. This shift is redefining how knowledge is delivered, accessed, and experienced in education. Enhancing Learning Experiences With Digital Tools: AI, ChatGPT, and Virtual and Augmented Reality presents an exploration of the transformative power of digital tools in modern education. It illuminates how AI, virtual and augmented reality, and other digital resources are being leveraged to reimagine learning environments, elevate student engagement, and foster innovative teaching methods. Covering topics such as ChatGPT, English language teaching, and young learners, this book is an excellent resource for educators, academic researchers, administrators, policymakers, and more.

A global health strategy for 2025-2028 - advancing equity and resilience in a turbulent world

Enhancing Learning Experiences With Digital Tools: AI, ChatGPT, and Virtual and Augmented Reality

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