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Trends in Industrial Engineering Applications to Manufacturing Process - Jorge Luis García-Alcaraz

This book covers supply chain and logistics, production and manufacturing systems as well as human factors. Topics such as applications to procurements from suppliers, suppliers developments and relationships with suppliers are reported. The techniques and tools applied to production processes, such as, machinery maintenance and quick changeover, are described in detail. The book also presents human factors as the main component in the industrial engineering field, reporting some successful teamwork organizations for improvements and applied ergonomics, among others.

Responsible Manufacturing - Ammar Y. Alqahtani 2019-02-25

Responsible Manufacturing has become an obligation to the environment and to society itself, enforced primarily by customer perspective and governmental regulations on environmental issues. This is mainly driven by the escalating deterioration of the environment, such as diminishing raw material resources, overflowing waste sites, and increasing levels of pollution. Responsible Manufacturing related issues have found a large following in industry and academia, which aim to find solutions to the problems that arise in this newly emerged research area. Problems are widespread, including the ones related to the lifecycle of products, disassembly, material recovery, remanufacturing, and pollution

prevention. Organized into sixteen chapters, this book provides a foundation for academicians and practitioners, and addresses several important issues faced by strategic, tactical, and operation planners of Responsible Manufacturing. Using efficient models in a variety of decision-making situations, it provides easy-to-use mathematical and/or simulation modeling-based solution methodologies for the majority of the issues. Features Addresses a variety of state-of-the-art issues in Responsible Manufacturing Highlights how popular industrial engineering and operations research techniques can be effectively exploited to find the most effective solutions to problems Presents how a specific issue can be approached or modeled in a given decision-making situation Covers strategic, tactical, and operational systems issues Provides a foundation for academicians and practitioners interested in building bodies of knowledge in this new and fast-growing area [Managing Supply Chain Risk and Disruptions: Post COVID-19](#) - Aravind Raj Sakthivel 2021-06-24

This book summarizes the effect of COVID-19 on the global supply chain. Eminent researchers, practitioners, and professors discuss the challenges faced by supply chain providers and supply chain strategies related to various global, retail, fast moving consumer goods, humanitarian, pharmaceutical, and agricultural supply chains. This book also suggests the resilient approach adopted by supply chain

organizations for quick recovery and re-establishing their networks. This book helps the readers explore the pandemic's impact on the supply chain and rebuilding the same using suitable approaches.

Multiple Criteria Decision Making Applications in Environmentally Conscious Manufacturing and Product Recovery - Surendra M. Gupta 2017-10-17

In order to ensure environmentally responsible production and disposal of products, local governments are imposing stricter environmental regulations, some of which even require manufacturers to take back their products at the end of the product's useful life. These government regulations, together with increasing environmental awareness, have forced manufacturers to invest in environment-conscious manufacturing. The multiple Criteria Decision Making Techniques presented in this book can be employed to solve the problems of environment-conscious manufacturers in product design, logistics, disassembly and remanufacturing.

Industrial Engineering and Production Management - Martand T Telsang

For close to 20 years, [Industrial Engineering and Production Management] has been a successful text for students of Mechanical, Production and Industrial Engineering while also being equally helpful for students of other courses including Management. Divided in 5 parts and 52 chapters, the text combines theory with examples to provide in-depth coverage of the subject.

Logistics Operations and Management - Reza Farahani 2011-05-25

This book provides a comprehensive overview of how to strategically manage the movement and storage of products or materials from any point in the manufacturing process to customer fulfillment. Topics covered include important tools for strategic decision making, transport, packaging, warehousing, retailing, customer services and future trends. An introduction to logistics Provides practical applications Discusses trends and new strategies in major parts of the logistic industry

Multi-Criteria Decision Analysis in Management - Behl, Abhishek 2020-02-01

Multi-criteria decision making (MCDM) has been extensively used in diverse disciplines, with a variety of MCDM techniques used to solve complex problems. A primary challenge faced by research scholars is to decode these techniques using detailed step-by-step analysis with case studies and data sets. The scope of such work would help decision makers to understand the process of using MCDM techniques appropriately to solve complex issues without making mistakes. Multi-Criteria Decision Analysis in Management provides innovative insights into the rationale behind using MCDM techniques to solve decision-making problems and provides comprehensive discussions on these techniques from their inception, development, and growth to their advancements and applications. The content within this publication examines hybrid multicriteria models, value theory, and data envelopment. Ideal for researchers, management professionals, students, operations scholars, and academicians, this scholarly work supports and enhances the decision-making process.

Gurus of Modern Yoga - Mark Singleton 2014

Gurus of Modern Yoga explores the contributions that individual gurus have made to the formation of the practices and discourses of yoga in today's world.

Pursuing Sustainability - Chialin Chen 2021-03-03

This handbook includes three parts, corresponding to the following three domains of OR/MS research related to sustainability: (i) Systems Design, Innovation, and Technology, (ii) Manufacturing, Logistics, and Transportation, and (iii) Sustainable Natural Resource Management. The first part of the handbook (Chapters 2-6) will focus on the creation and development of sustainable products, services, value chains, and organizations from a systems perspective. Key areas to be covered include Green Design & Innovation, Technology and Engineering Management, Sustainable Value Chain Systems, Sustainability Standards and Performance Evaluation, and Circular Economy and New Research Directions in Sustainability. The second part of the handbook (Chapters 7-11) will concentrate on the major operational and logistic issues faced by today's industries in pursuing sustainability. Key areas to be covered

include Remanufacturing, Reverse Logistics, Closed-Loop Supply Chains, Sustainable Transportation, and New Research Directions in Green Supply Chain Management. The third part of the proposed handbook (Chapters 12-16) will center on major sustainability issues in managing engineering infrastructure and natural resources. Key areas to be covered include Renewable Energy, Sustainable Water Resource, Biofuel Infrastructure, Natural Gas, and New Research Direction in Sustainable Resource Management. The handbook aims to bridge the three main OR/MS research domains in sustainability: "Systems Design, Innovation, and Technology," "Manufacturing, Logistics, and Transportation," and "Sustainable Natural Resource Management." Traditionally, these domains are treated separately in the OR/MS literature. By combining the three domains, the handbook will provide a more holistic treatment of MS/OR methodologies to address critical sustainability issues faced by today's society. Unlike most existing handbooks which only focus on current OR/MS research in sustainability within a domain, this handbook will include a concluding chapter in each of the three parts to discuss and identify potential future research directions in each of the three main domains.

INDUSTRIAL ENGINEERING AND MANAGEMENT - RAVI, V.

2015-08-31

The book is primarily intended as a text for all branches of B.Tech, M.Tech and MBA courses. Beginning with an introduction to industrial engineering, it discusses contributions and thoughts of classical (Taylor, Fayol, and Weber's), neo-classical (Hawthorne) and modern thinkers. The book explains different functions of management, and differentiate between management and administration. Various types of business organisations with their structures and personnel management also find place in the book. Topics related to facilities location, material handling, work study, job evaluation and merit rating, wages and incentives that are of prime importance in any business are discussed. The book is aimed at providing a better understanding of industrial operations with practical approach. Financial aspects related to business operations such as financial management, management accounting, breakeven analysis,

depreciation and replacement policies for equipment assume prime importance. Numerical examples have been solved at appropriate places to create interest in readers. Marketing aspects of business as marketing management, new product development and sales forecasting methods are discussed, besides management and control of operations. For maintaining industrial peace, good relationship between employers and employees is essential. Chapters on industrial relations, industrial safety and industrial legislations are introduced with the objective of providing readers with information on these important aspects. Good decision-making is what differentiates a good manager from a bad one. Thus, a chapter on decision-making is added to examine its skill. Network constructions, CPM, PERT have been covered under project management. Quantitative techniques for decision-making as linear programming, transportation problems, assignment problems, game theory, queuing theory, etc., are also discussed in this textbook. KEY FEATURES • Lucid presentation of the concepts. • Illustrative figures and tables make the reading more fruitful and enriching. • Numerical problems with solutions form an integral part of the book, making it application-oriented. • Chapter-end review questions test the students' knowledge of the fundamental concepts.

Industrial Engineering and Management - Dr. Ravi Shankar 2003-01-01

The book is intended to serve as a text book for the Industrial Engineering and Management courses. It seeks to develop an understanding of the concepts based on careful discussion of models, applications and related research. The chapters are well planned to cover the recent advancements in the area. Role of the industrial engineering as a change agent is being crafted by exposing to the area of continuous improvement (TQM), benchmarking and reengineering. Many recent developments, such as ERP, MRP, MRP II, Theory of constraints, advanced manufacturing system, AGV, Just-in-Time system, supply chain, etc. have received adequate attention in this book.

Computer Information Systems and Industrial Management -

Agostino Cortesi 2012-09-20

This book constitutes the refereed proceedings of the 11th International

Conference on Computer Information Systems and Industrial Management, CISIM 2012, held in Venice, Italy, in September 2012. The 35 revised full papers presented together with 2 keynote talks were carefully reviewed and selected from 80 submissions. The papers are organized in topical sections on security, access control and intrusion detection; pattern recognition and image processing; biometric applications; algorithms and data management; networking; and system models and risk assessment.

Industrial Engineering and Management - Pravin Kumar 2015

The book has been designed for undergraduate students studying Mechanical Engineering or Industrial Engineering. It discusses various concepts and provides practical knowledge related to the area of Industrial Engineering and Management. The book lucidly covers Project Management, Quality Management, Costing etc. in detail to develop the required skills among the students.

Bioprocess Engineering for a Green Environment - V. Sivasubramanian 2018-05-04

Bioprocess Engineering for a Green Environment examines numerous bioprocesses that are crucial to our day-to-day life, specifically the major issues surrounding the production of energy relating to biofuels and waste management. The nuance of this discussion is reflected by the text's chapter breakdown, providing the reader with a fulsome investigation of the energy sector; the importance of third-generation fuels; and the application of micro- and macroalgae for the production of biofuels. The book also provides a detailed exploration of biocatalysts and their application to the food industry; bioplastics production; conversion of agrowaste into polysaccharides; as well as the importance of biotechnology in bio-processing. Numerous industries discharge massive amounts of effluents into our rivers, seas, and air systems. As such, two chapters are dedicated to the treatment of various pollutants through biological operation with hopes of achieving a cleaner, greener, environment. This book represents the most comprehensive study of bioprocessing—and its various applications to the environment—available on the market today. It was furthermore written

with various researchers in mind, ranging from undergraduate and graduate students looking to enhance their knowledge of the topics presented to scholars and engineers interested in the bioprocessing field, as well as members of industry and policy-makers. Provides a comprehensive overview of bioprocesses that apply to day-to-day living. Is learner-centered, providing detailed diagrams for easy understanding. Explores the importance of biocatalysts and their applications to the food industry, as well as bioplastics production. Examines the unique capabilities of bioprocess engineering and its ability to treat various pollutants. .

Optimization of Manufacturing Processes - Kapil Gupta 2019-06-25

This book provides a detailed understanding of optimization methods as they are implemented in a variety of manufacturing, fabrication and machining processes. It covers the implementation of statistical methods, multi-criteria decision making methods and evolutionary techniques for single and multi-objective optimization to improve quality, productivity, and sustainability in manufacturing. It reports on the theoretical aspects, special features, recent research and latest development in the field. Optimization of Manufacturing Processes is a valuable source of information for researchers and practitioners, as it fills the gap where no dedicated book is available on intelligent manufacturing/modeling and optimization in manufacturing. Readers will develop an understanding of the implementation of statistical and evolutionary techniques for modeling and optimization in manufacturing.

Advances in Industrial and Production Engineering - Kripa Shanker 2019-04-23

This book comprises select proceedings of the International Conference on Future Learning Aspects of Mechanical Engineering (FLAME 2018). The book discusses different topics of industrial and production engineering such as sustainable manufacturing systems, computer-aided engineering, rapid prototyping, manufacturing management and automation, metrology, manufacturing process optimization, casting, welding, machining, and machine tools. The contents of this book will be useful for researchers as well as professionals.

Advances in Manufacturing Technology and Management -

Ranganath M. Singari 2022-12-12

This book presents the select peer-reviewed proceeding of the International Conference on Advanced Production and Industrial Engineering (ICAPIE) – 2021 held at Delhi Technological University. It covers recent trends in various fields of mechanical engineering. The broad range of topics and issues covered include mechanical system engineering, materials engineering, micro-machining, renewable energy, industrial engineering and additive manufacturing. This book will be useful for students, researchers and professionals working in the area of mechanical and allied engineering discipline.

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

Jagdish C. Bansal 2012-12-04

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-IIITM 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.

Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing -

Management Association, Information Resources 2021-01-25

Distributed systems intertwine with our everyday lives. The benefits and current shortcomings of the underpinning technologies are experienced by a wide range of people and their smart devices. With the rise of large-scale IoT and similar distributed systems, cloud bursting technologies, and partial outsourcing solutions, private entities are encouraged to increase their efficiency and offer unparalleled availability and reliability to their users. The Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing is a vital reference source that provides valuable insight into current and

emergent research occurring within the field of distributed computing. It also presents architectures and service frameworks to achieve highly integrated distributed systems and solutions to integration and efficient management challenges faced by current and future distributed systems. Highlighting a range of topics such as data sharing, wireless sensor networks, and scalability, this multi-volume book is ideally designed for system administrators, integrators, designers, developers, researchers, academicians, and students.

Proceedings of the International Conference on Industrial and Manufacturing Systems (CIMS-2020) - Ravi Pratap Singh 2021-07-24

In order to deal with the societal challenges novel technology plays an important role. For the advancement of technology, Department of Industrial and Production Engineering under the aegis of NIT Jalandhar is organizing an "International Conference on Industrial and Manufacturing Systems" (CIMS-2020) from 26th -28th June, 2020. The present conference aims at providing a leading forum for sharing original research contributions and real-world developments in the field of Industrial and Manufacturing Systems so as to contribute its share for technological advancements. This volume encloses various manuscripts having its roots in the core of industrial and production engineering. Globalization provides all around development and this development is impossible without technological contributions. CIMS-2020, gathered the spirits of various academicians, researchers, scientists and practitioners, answering the vivid issues related to optimisation in the various problems of industrial and manufacturing systems.

Web-Based Green Products Life Cycle Management Systems: Reverse Supply Chain Utilization - Wang, Hsiao-Fan 2008-12-31

Provides a review of current and potential research in green management and control.

Managing Flexibility - Sushil 2015-07-16

This edited book provides a conceptual framework of managing flexibility in the areas of people, process, technology and business supported by researches/case applications in various types of flexibilities in business. The book is organized into following five parts: (i) Managing Flexibility;

(ii) People Flexibility; (iii) Process Flexibility; (iv) Flexibility in Technology and Innovation Management; and (v) Business Flexibility. Managing flexibility at the level of people, process, technology and business encompasses the requirements of both choice and speed. The need for managing flexibility is growing to cope with the developments and challenges in the global business environment. This can be seen from reactive as well as proactive perspectives. Flexibility is a major dimension of business excellence and deals with a paradoxical view point such as stability and dynamism, continuity and change, centralization and decentralization, and so on. It needs to be managed at the levels of people, process, technology and various business functions and it is important to create flexibility at the level of people to create and manage flexibility in processes and technologies in order to support flexible business requirements.

Industrial Engineering & Management 2e - Ravi Shankar

Industrial Engineering And Management - O. P. Khanna 1980

ISOM 2013 Proceedings (GIAP Journals, India) - Global Institutes Amritsar and University of Mauritius

Operations Management and Systems Engineering - Anish Sachdeva 2019-04-08

This book comprises select proceedings of the International Conference on Production and Industrial Engineering (CPIE) 2018. The book focuses on the latest developments in the domain of operations management and systems engineering, and presents analytical models, case studies, and simulation approaches relevant to a wide variety of systems engineering problems. Topics such as decision sciences, human factors and ergonomics, transport and supply chain management, manufacturing design, operations research, waste management, modeling and simulation, reliability and maintenance, and sustainability in operations and manufacturing are discussed in this book. The contents of this book will be useful to academics, researchers and practitioners working in the

field of systems engineering and operations management.

Environment Conscious Manufacturing - Surendra M. Gupta 2007-12-19
Hotter temperatures, less arctic ice, loss of habitat-every other day, it seems, global warming and environmental issues make headlines. Consumer-driven environmental awareness combined with stricter recycling regulations have put the pressure on companies to produce and dispose of products in an environmentally responsible manner.

Redefining indus

Handbook of Computational Intelligence in Manufacturing and Production Management - Laha, Dipak 2007-11-30

During the last two decades, computer and information technologies have forced great changes in the ways businesses manage operations in meeting the desired quality of products and services, customer demands, competition, and other challenges. The Handbook of Computational Intelligence in Manufacturing and Production Management focuses on new developments in computational intelligence in areas such as forecasting, scheduling, production planning, inventory control, and aggregate planning, among others. This comprehensive collection of research provides cutting-edge knowledge on information technology developments for both researchers and professionals in fields such as operations and production management, Web engineering, artificial intelligence, and information resources management.

Agile Manufacturing Systems - K Hans Raj 2011-12-17

Agility has become very important for the industries today as the lifetimes of the products are continuously shrinking. This book provides an excellent opportunity for updating understanding of agile methods from the design, manufacturing and business process perspectives, whether one is an industrial practitioner, academic researcher engineer or business graduate student. This volume is a compilation of various important aspects of agility consisting of systemic considerations in manufacturing, agile software systems, agile business systems, agile operations research, flexible manufacturing systems, advanced manufacturing systems with improved materials and mechanical behavior of products, agile aspects of design, clean and green

manufacturing systems, environment, agile defence systems.

Microbes in Land Use Change Management - Jay Shankar Singh

2021-08-20

Microbes in Land Use Change Management details the various roles of microbial resources in management of land uses and how the microbes can be used for the source of income due to their cultivation for the purpose of biomass and bioenergy production. Using various techniques, the disturbed and marginal lands may also be restored eco-friendly in present era to fulfil the feeding needs of mankind around the globe. Microbes in Land Use Change Management provides standard and up to date information towards the land use change management using various microbial technologies to enhance the productivity of agriculture. Needless to say that Microbes in Land Use Change Management also considers the areas including generation of alternative energy sources, restoration of degraded and marginal lands, mitigation of global warming gases and next generation -omics technique etc. Land use change affects environment conditions and soil microbial community. Microbial population and its species diversity have influence in maintaining ecosystem balance. The study of changes of microbial population provides an idea about the variation occurring in a specific area and possibilities of restoration. Meant for a multidisciplinary audience Microbes in Land Use Change Management shows the need of next-generation omics technologies to explore microbial diversity. Describes the role of microbes in generation of alternative source of energy Gives recent information related to various microbial technology and their diversified applications Provides thorough insight in the problems related to landscape dynamics, restoration of soil, reclamation of lands mitigation of global warming gases etc. eco-friendly way using versatility of microbes Includes microbial tools and technology in reclamation of degraded, disturbed and marginal lands, mitigation of global warming gases

Handbook of Algal Technologies and Phytochemicals - Gokare A. Ravishankar 2019-07-12

Key Features The most comprehensive resource available on the

biodiversity of algal species, their industrial production processes and their use for human consumption in food, health and varied applications. Emphasis on basic and applied research, addressing aspects of scale-up for commercial exploitation for the development of novel phytochemicals (phytochemicals from algae). Addresses the underexplored and underutilized potential of chemicals from marine sources for health benefits. Each chapter, written by expert contributors from around the world, includes a Dictionary of Terms, Key Facts, Summary Points, Figures and Tables, as well as up-to-date references. The second book in this two-volume set explores phycoremediation applications, and the sustainable use of algae for biofuels and other products of economic value. It also looks at aspects such as macro- and micro algal impact on marine ecosystem and remote sensing of algal blooms. The commercial value of chemicals of value to food and health is about \$6 billion annually, of which 30 percent relates to micro and macro algal metabolites and products for health food applications. As a whole, the two volumes explore the aspects of diversity of micro and macro algal forms, their traditional uses; their constituents which are of value for food, feed, specialty chemicals, bioactive compounds for novel applications, and bioenergy molecules. Bio-business and the market share of algae-based products are also dealt with, providing global perspectives.

Logistics 4.0 - Turan Paksoy 2020-12-18

Industrial revolutions have impacted both, manufacturing and service. From the steam engine to digital automated production, the industrial revolutions have conducted significant changes in operations and supply chain management (SCM) processes. Swift changes in manufacturing and service systems have led to phenomenal improvements in productivity. The fast-paced environment brings new challenges and opportunities for the companies that are associated with the adaptation to the new concepts such as Internet of Things (IoT) and Cyber Physical Systems, artificial intelligence (AI), robotics, cyber security, data analytics, block chain and cloud technology. These emerging technologies facilitated and expedited the birth of Logistics 4.0.

Industrial Revolution 4.0 initiatives in SCM has attracted stakeholders' attentions due to its ability to empower using a set of technologies together that helps to execute more efficient production and distribution systems. This initiative has been called Logistics 4.0 of the fourth Industrial Revolution in SCM due to its high potential. Connecting entities, machines, physical items and enterprise resources to each other by using sensors, devices and the internet along the supply chains are the main attributes of Logistics 4.0. IoT enables customers to make more suitable and valuable decisions due to the data-driven structure of the Industry 4.0 paradigm. Besides that, the system's ability of gathering and analyzing information about the environment at any given time and adapting itself to the rapid changes add significant value to the SCM processes. In this peer-reviewed book, experts from all over the world, in the field present a conceptual framework for Logistics 4.0 and provide examples for usage of Industry 4.0 tools in SCM. This book is a work that will be beneficial for both practitioners and students and academicians, as it covers the theoretical framework, on the one hand, and includes examples of practice and real world.

Bio-Materials and Prototyping Applications in Medicine - Paulo Jorge Bártolo 2007-12-03

Rapid prototyping is used to design and develop medical devices and instrumentation. This book details research in rapid prototyping of bio-materials for medical applications. It provides a wide variety of examples of medical applications using rapid prototyping, including tissue engineering, dental applications, and bone replacement. Coverage also discusses the emergence of computer aided design in the development of prosthetic devices.

Proceedings of 2013 4th International Asia Conference on Industrial Engineering and Management Innovation (IEMI2013) - Ershi Qi 2014-01-16

The purpose of the 4th International Asia Conference on Industrial Engineering and Management Innovation (IEMI 2013) is to bring together researchers, engineers and practitioners interested in the application of informatics to usher in new advances in the industrial

engineering and management fields.

Industrial Engineering and Operations Management I - João Reis 2019-04-13

Based on the 2018 International Joint Conference on Industrial Engineering and Operations Management (IJCIEOM) conference that took place in Lisbon, Portugal, this proceedings volume is the first of two focusing on mathematical applications in digital transformation. The different contributions in this volume explore topics such as modelling, simulation, logistics, innovation, sustainability, health care, supply chain, lean manufacturing, operations management, quality and digital. Written by renowned scientists from around the world, this multidisciplinary volume serves as a reference on industrial engineering and operations management and as a source on current findings for researchers and students aiming to work on industrial-related problems.

Operations and Service Management: Concepts, Methodologies, Tools, and Applications - Management Association, Information Resources 2017-11-30

Organizations of all types are consistently working on new initiatives, product lines, and workflows as a way to remain competitive in the modern business environment. No matter the type of project at hand, employing the best methods for effective execution and timely completion of the task is essential to business success. *Operations and Service Management: Concepts, Methodologies, Tools, and Applications* is a comprehensive reference source for the latest research on business operations and production processes. It examines the need for a customer focus and highlights a range of pertinent topics such as financial performance measures, human resource development, and business analytics, this multi-volume book is ideally designed for managers, professionals, students, researchers, and academics interested in operations and service management.

IoT-Based Data Analytics for the Healthcare Industry - Sanjay Kumar Singh 2020-12-01

IoT Based Data Analytics for the Healthcare Industry: Techniques and Applications explores recent advances in the analysis of healthcare

industry data through IoT data analytics. The book covers the analysis of ubiquitous data generated by the healthcare industry, from a wide range of sources, including patients, doctors, hospitals, and health insurance companies. The book provides AI solutions and support for healthcare industry end-users who need to analyze and manipulate this vast amount of data. These solutions feature deep learning and a wide range of intelligent methods, including simulated annealing, tabu search, genetic algorithm, ant colony optimization, and particle swarm optimization. The book also explores challenges, opportunities, and future research directions, and discusses the data collection and pre-processing stages, challenges and issues in data collection, data handling, and data collection set-up. Healthcare industry data or streaming data generated by ubiquitous sensors cocooned into the IoT requires advanced analytics to transform data into information. With advances in computing power, communications, and techniques for data acquisition, the need for advanced data analytics is in high demand. Provides state-of-art methods and current trends in data analytics for the healthcare industry Addresses the top concerns in the healthcare industry using IoT and data analytics, and machine learning and deep learning techniques Discusses several potential AI techniques developed using IoT for the healthcare industry Explores challenges, opportunities, and future research directions, and discusses the data collection and pre-processing stages

Ecological Technologies for Industrial Wastewater Management - Victor M. Monsalvo 2015-06-16

Water is essential to our planet's life, and protecting our water resources is a prerequisite for building a sustainable future. Since water use is inextricably linked to energy use, however, we face significant challenges. Water plays an essential role in many, if not most, manufacturing facilities. In a world facing a water-scarcity crisis, much research and development currently focuses on decreasing industries' water-use footprint. This compendium volume looks briefly at several select industries and investigates various water treatment processes for each, including microbial biotechnologies, ozone-related processes, adsorption, and photochemical reactions, among others. The various

industries are organized into four groups: Industries that produce petrochemicals Metal industries The semi-conductor industry The paper and pulp industries Collected by a well-respected expert in the field, the studies gathered here are intended to be a starting point for further investigation by graduate students and other scientific researchers. Today's research, found in these chapters, can be expanded to create tomorrow's even wider frame of study.

Industrial Engineering and Operations Management - Antônio Márcio Tavares Thomé 2021-08-28

This proceedings volume gathers together selected peer-reviewed papers presented at the second edition of the XXVI International Joint Conference on Industrial Engineering and Operations Management (IJCIEOM), which was virtually held on February 22-24, 2021 with the main organization based at the Pontifical Catholic University of Rio de Janeiro, Brazil. Works cover a range of topics in industrial engineering, including operations and process management, global operations, managerial economics, data science and stochastic optimization, logistics and supply chain management, quality management, product development, strategy and organizational engineering, knowledge and information management, sustainability, and disaster management, to name a few. These topics broadly involve fields like operations, manufacturing, industrial and production engineering, and management. This book can be a valuable resource for researchers and practitioners in optimization research, operations research, and correlated fields.

Advances in Manufacturing and Industrial Engineering - Ranganath M. Singari 2021-01-13

This book presents selected peer reviewed papers from the International Conference on Advanced Production and Industrial Engineering (ICAPIE 2019). It covers a wide range of topics and latest research in mechanical systems engineering, materials engineering, micro-machining, renewable energy, industrial and production engineering, and additive manufacturing. Given the range of topics discussed, this book will be useful for students and researchers primarily working in mechanical and industrial engineering, and energy technologies.