

Unsw Mining Engineering 2010 File Type

Surveying for Civil and Mine EngineersAcquire the Skills in WeeksSpringer Nature

With the ever-growing power of generating, transmitting, and collecting huge amounts of data, information overload is now an imminent problem to mankind. The overwhelming demand for information processing is not just about a better understanding of data, but also a better usage of data in a timely fashion. Data mining, or knowledge discovery from databases, is proposed to gain insight into aspects of data and to help people make informed, sensible, and better decisions. At present, growing attention has been paid to the study, development, and application of data mining. As a result there is an urgent need for sophisticated techniques and tools that can handle new fields of data mining, e. g., spatial data mining, biomedical data mining, and mining on high-speed and time-variant data streams. The knowledge of data mining should also be expanded to new applications. The 6th International Conference on Advanced Data Mining and Applications (ADMA2010) aimed to bring together the experts on data mining throughout the world. It provided a leading international forum for the dissemination of original research results in advanced data mining techniques, applications, algorithms, software and systems, and different applied disciplines. The conference attracted 361 online submissions from 34 different countries and areas. All full papers were peer reviewed by at least three members of the Program Committee composed of international experts in data mining fields. A total number of 118 papers were accepted for the conference. Amongst them, 63 papers were selected as regular papers and 55 papers were selected as short papers.

Do you know how to think like an architect? Do you know why you should? How do you make sure that you have the critical thinking tools necessary to prosper in your academic and professional career? This book gives you the answers. Architects have a valuable and critical set of multiple thinking types that they develop throughout the design process. In this book, Randy Deutsch shows readers how to access those thinking types and use them outside pure design thinking - showing how they can both solve problems but also identify the problems that need solving. To think the way the best architects do. With a clear, driving narrative, peppered with anecdote, stories and real-life scenarios, this book will future-proof the architectural student. Change is coming in the architecture profession, and this is a much-needed exploration of the critical thinking skills that architects have in abundance, but that are not taught well enough within architecture schools. These skills are crucial in being able to respond agilely to a future that nobody is quite sure of.

Provides a thorough explanation of the basic properties of materials; of how these can be controlled by processing; of how materials are formed, joined and finished; and of the chain of reasoning that leads to a successful choice of material for a particular application. The materials covered are grouped into four classes: metals, ceramics, polymers and composites. Each class is studied in turn, identifying the families of materials in the class, the microstructural features, the processes or treatments used to obtain a particular structure and their design applications. The text is supplemented by practical case studies and example problems with answers, and a valuable programmed learning course on phase diagrams.

Practical Least Squares and Statistics for Surveyors

My Country, Mine Country

Marine Studies

9th Edition

Handbook of Natural Language Processing

Surveying for Civil and Mine Engineers

Handbook of Photovoltaic Science and Engineering

This edited volume on machine learning and big data analytics (Proceedings of ICMLBDA 2021) is intended to be used as a reference book for researchers and practitioners in the disciplines of computer science, electronics and telecommunication, information science, and electrical engineering. Machine learning and Big data analytics represent a key ingredients in the industrial applications for new products and services. Big data analytics applies machine learning for predictions by examining large and varied data sets—i.e., big data—to uncover hidden patterns, unknown correlations, market trends, customer preferences, and other useful information that can help organizations make more informed business decisions.

Written by renowned data science experts Foster Provost and Tom Fawcett, Data Science for Business introduces the fundamental principles of data science, and walks you through the "data-analytic thinking" necessary for extracting useful knowledge and business value from the data you collect. This guide also helps you understand the many data-mining techniques in use today. Based on an MBA course Provost has taught at New York University over the past ten years, Data Science for Business provides examples of real-world business problems to illustrate these principles. You'll not only learn how to improve communication between business stakeholders and data scientists, but also how to participate intelligently in your company's data science projects. You'll also discover how to think data-analytically, and fully appreciate how data science methods can support business decision-making. Understand how data science fits in your organization—and how you can use it for competitive advantage. Treat data as a business asset that requires careful investment if you're to gain real value. Approach business problems data-analytically, using the data-mining process in the most appropriate way. Learn general concepts for actually extracting knowledge from data. Apply data science principles when interviewing data science job candidates.

Froth Flotation: A Century of Innovation comprehensively describes the state-of-the-art research and practice in mineral froth flotation as known and practiced a century after its introduction. Recognized experts from around the world provide in-depth coverage on the historical aspects of flotation; flotation fundamentals; flotation chemistry; flotation cells, modeling, and simulation; and flotation plant practice. This commemorative volume is an invaluable reference for industry professionals, researchers, and graduate students. It continues a distinguished series that began with Froth Flotation: 50th Anniversary Volume (1962) and the A.M. Gaudin Memorial Volume (1976). The enclosed CD supplements the book with presentations from the Centenary of Flotation Symposium managed by the Australasian Institute of Mining and Metallurgy.

This title contains 25 invited chapters that present the most current thinking on the environmental mechanisms contributing to global climate change and explore scientifically grounded steps to reduce the buildup of greenhouse gases in the atmosphere.

Machine Learning and Big Data Analytics (Proceedings of International Conference on Machine Learning and Big Data Analytics (ICMLBDA) 2021)

How Technology Will Transform the Work of Human Experts

Advanced Data Mining and Applications

Advances in Computer Science for Engineering and Education II

The Cross-Entropy Method

Removing Mountains

Biochar for Environmental Management

The most comprehensive, authoritative and widely cited reference on photovoltaic solar energy fully revised and updated, the Handbook of Photovoltaic Science and Engineering, Second Edition incorporates the substantial technological advances and research developments in photovoltaics since its previous release. All topics relating to the photovoltaic (PV) industry are discussed with contributions by distinguished international experts in the field. Significant new coverage includes: three completely new chapters and six chapters with new authors device structures, processing, and manufacturing options for the three major thin film PV technologies high performance approaches for multijunction, concentrator, and space applications new types of organic polymer and dye-sensitized solar cells economic analysis of various policy options to stimulate PV growth including effect of public and private investment Detailed treatment covers: scientific basis of the photovoltaic effect and solar cell operation the production of solar silicon and of silicon-based solar cells and modules how choice of semiconductor materials and their production influence costs and performance measurements on solar cells and modules and how to relate results under standardized test conditions to real outdoor performance photovoltaic system installation and operation of components such as inverters and batteries, architectural applications of building-integrated PV Each chapter is structured to be partially accessible to beginners while providing detailed information of the physics and technology for experts. Encompassing a review of past work and the fundamentals in solar electric science, this is a leading reference and invaluable resource for all practitioners, consultants, researchers and students in the PV industry.

Although chemistry has been the target of numerous public moral debates for over a century, there is still no academic field of ethics of chemistry to develop an ethically balanced view of the discipline. And while ethics courses are increasingly demanded for science and engineering students in many countries, chemistry is still lagging behind because of a lack of appropriate teaching material. This volume fills both gaps by establishing the scope of ethics of chemistry and providing a case-based approach to teaching, thereby also narrating a cultural history of chemistry. From poison gas in WWI to climate engineering of the future, this volume covers the most important historical cases of chemistry. It draws lesson from major disasters of the past, such as in Bhopal and Love Canal, or from thalidomide, Agent Orange, and DDT. It further introduces to ethical arguments pro and con by discussing issues about bisphenol-A, polyvinyl chloride, and rare earth elements; as well as of contested chemical projects such as human enhancement, the creation of artificial life, and patents on human DNA. Moreover, it illustrates chemical engagements in preventing hazards, from the prediction of ozone depletion, to Green Chemistry, and research in recycling, industrial substance substitution, and clean-up. Students also learn about codes of conduct and chemical regulations. An international team of experts narrate the historical cases and analyse their ethical dimensions. All cases are suitable for undergraduate teaching, either in classes of ethics, history of chemistry, or in chemistry classes proper.

This book gathers high-quality, peer-reviewed research papers presented at the Second International Conference on Computer Science, Engineering and Education Applications (ICSEEAE2019), held in Kiev, Ukraine on 26–27 January 2019, and jointly organized by the National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute' and the International Research Association of Modern Education and Computer Science. The papers discuss state-of-the-art topics and advances in computer science: neural networks; pattern recognition; engineering techniques; genetic coding systems; deep learning and its medical applications; and knowledge representation and its applications in education. Given its scope, the book offers an excellent resource for researchers, engineers, management practitioners, and graduate and undergraduate students interested in computer science and its applications in engineering and education.

Rock dynamics has become one of the most important topics in the field of rock mechanics and rock engineering, and involves a wide variety of topics, from earthquake engineering, blasting, impacts, failure of rock engineering structures as well as the occurrence and prediction of earthquakes, induced seismicity, rock bursts to non-destructive testing and explorations. Rock dynamics has wide applications in civil and infrastructural resources and energy, geological and environmental engineering, geothermal energy, earthquake hazards management, and has become one of the most topical subjects. The 2019 Rock Dynamics Summit contains 8 keynote addresses, 2019 Rock Dynamics Regular full papers that were presented at the 2019 Rock Dynamics Summit (2019 RDS, Okinawa, Japan, 7–11 May 2019) and 10 invited keynote papers. The 2019 Rock Dynamics Summit is a specialized conference jointly organized by the Rock Dynamics Committee of the Japanese Society of Civil Engineers (JSCE-RDC), the Japanese Society for Rock Mechanics (JSRM), and which was supported by the International Society for Rock Mechanics and Rock Engineering (ISRM) and the Turkish National Society for Rock Mechanics (TNSRM). The contributions cover a wide range of topics on the dynamic behavior of rock and rock masses and scientific and engineering applications, and include: - Laboratory tests on Dynamic Responses of Rocks and Rock Masses / Fracturing of Rocks and Associated Strong Motions - Estimation Procedures and Numerical Techniques of Strong Motions Associated with the Rupture of Earth's Crust and Some Strong Motion - Dynamic Response and Stability of Rock Foundations, Underground Excavations in Rock, Rock Slopes Dynamic Responses and Stability of Stone Masonry Historical Structures and Monuments - Induced Seismicity - Dynamic Simulation of Loading and Excavation - Blasting and machinery induced vibrations - Rockburst, Outburst, Impacts - Nondestructive Testing Using Shock Waves - Case Histories of Failure Phenomenon in Rock Engineering 2019 Rock Dynamics Summit contains the state-of-the-art in rock dynamics, and will be invaluable to professionals and academics interested in the latest advances in new techniques for experiments, analytical and numerical modelling as well as monitoring in dynamics of rocks and rock engineering structures.

Climate Change Modeling, Mitigation, and Adaptation

Indigenous People, Mining and Development Contestation in Remote Australia

Froth Flotation

Future Data and Security Engineering: Big Data, Security and Privacy, Smart City and Industry 4.0 Applications

Report Writing Guide

Adaptive Stream Mining

Distance Education for Teacher Training

Rock Mechanics and Rock Engineering: From the Past to the Future contains the contributions presented at EUROCK2016, the 2016 International Symposium of the International Society for Rock Mechanics (ISRM 2016, Urgup, Cappadocia Region, Turkey, 29–31 August 2016). The contributions cover almost all aspects of rock mechanics and rock engineering, from theoretical to practical, emphasizing the future direction of rock engineering technologies. The 204 accepted papers and eight keynote papers are grouped into several main sections: - Fundamental rock mechanics - Rock properties and experimental rock mechanics - Analytical and numerical methods in rock engineering - Stability engineering - Design methodologies and analysis - Rock dynamics - rock mechanics and rock engineering at historical sites and monuments - Underground excavations in civil and mining engineering - Coupled processes in rock mass for underground storage and waste disposal - Rock mass characterization - Petroleum geomechanics - Carbon capture and storage - Instrumentation-monitoring in rock engineering and back analysis - Risk management, and - The 2016 Rocha Medal Lecture and the 2016 Franklin Lecture. Rock Mechanics and Rock Engineering: From the Past to the Future will be of interest to researchers and professionals involved in the various branches of rock mechanics and rock engineering.

This book provides a thorough review of this powerful and sophisticated technique for modelling soil structure interactions. It has been written by an international team of authors.

This important new volume presents recent research in healthcare information technology and analytics. Individual chapters look at such issues as the impact of technology failure on electronic prescribing behavior in primary care; attitudes toward electronic health records; a latent growth modeling approach to understanding lifestyle decision data; designing an integrated surgical care delivery system using axiomatic design and petri net modeling; and failure in a dynamic decision environment, particularly in treating patients with a chronic disease. Other chapters look at such topics as the impact of information technology integration in integrated delivery systems; operations and inventory management in a health system pharmacy; decision-theoretic assistants based on contextual gesture recognition; evaluating emergency response medical information systems; clinical decision support in critical care; virtual worlds in healthcare; and natural language processing for understanding contraceptive use at the VA.

An introduction to the techniques and algorithms of the newest field in robotics, Probabilistic robotics is a new and growing area in robotics, concerned with perception and control in the face of uncertainty. Building on the field of mathematical statistics, probabilistic robotics endows robots with a new level of robustness in real-world situations. This book is a wealth of techniques and algorithms in the field. All algorithms are based on a single overarching mathematical foundation. Each chapter provides example implementations in pseudo code, detailed mathematical derivations, discussions from a practitioner's perspective, and extensive lists of exercises and class projects. The book is available at www.probabilistic-robotics.org, has additional material. The book is relevant for anyone involved in robotic software development and scientific research. It will also be of interest to applied statisticians and engineers dealing with real-world sensor data.

Engineering Materials 2

The Future of the Professions

Geotechnical Centrifuge Technology

Unmaking Waste in Production and Consumption

Data Science for Business

Proceedings of the 2019 Rock Dynamics Summit (RDS 2019), May 7–11, 2019, Okinawa, Japan

Ten Pathways to Death and Disaster

This book predicts the decline of today's professions and introduces the people and systems that will replace them. In an internet-enhanced society, according to Richard Susskind and Daniel Susskind, we will neither need nor want doctors, teachers, accountants, architects, the clergy, consultants, lawyers, and many others, to work as they did in the 20th century. The Future of the Professions explains how increasingly capable technologies - from telepresence to artificial intelligence - will place the 'practical expertise' of the finest specialists at the fingertips of everyone, often at no or low cost and without face-to-face interaction. This book challenges the 'grand bargain' - the arrangement that grants various monopolies to today's professionals. They argue that our current professions are antiquated, opaque and no longer affordable, and that the expertise of their best is enjoyed only by a few. In their place, they propose five new models for producing and distributing expertise in society. The book raises profound policy issues, not least about employment (they envisage a new generation of 'open-collared workers') and about control over online expertise (they warn of new 'gatekeepers') - in an era when machines become more capable than human beings at most tasks. Based on the authors' in-depth research of more than a dozen professions, and illustrated by numerous examples from each, this is the first book to assess and question the future of the professions in the 21st century.

This book provides scholars working in the many disciplines that relate to the concept of the Circular Economy with a cross-disciplinary forum, looking at areas such as: Theory, Policy and Contexts; Improving Resource Efficiency and Reducing Waste; Changing Consumption and Behaviour by Design; and Transforming Technologies of Production.

Rubinfeld is the pioneer of the well-known score function and cross-entropy methods. Accessible to a broad audience of engineers, computer scientists, mathematicians, statisticians and in general anyone, theorist and practitioner, who is interested in smart simulation, fast optimization, learning algorithms, and online processing.

Why do mine disasters continue to occur in wealthy countries when major mine hazards have been known for over 200 years and subject to regulation for well over a century? What lessons can be drawn from these disasters and are mine operators, regulators and others drawing the correct conclusions from such events? Why is mining significantly safer in some countries than in others? Are the underlying causes of disasters substantially different from those that result in one or two fatalities? This book seeks to answer these questions by systematically analysing mine disasters and fatal incidents in five countries (Australia, Britain, Canada, New Zealand and the USA) since 1992. It finds that there are 10 pattern causes which repeatedly recur in these incidents, namely: engineering, design and maintenance flaws, failure to heed warning signs, flaws in risk assessment, flaws in management systems, flaws in system auditing, economic/reward pressures compromising safety, failures in regulatory oversight, worker/supervisor concerns that were ignored, poor worker/management communication and trust, and flaws in emergency and rescue procedures. The vast majority of incidents entailed at least three of these pattern causes and many exhibited five or more. The book also demonstrates these pattern deficiencies are not confined to mining but can be identified in other workplace disasters including aircraft crashes, oil-rig explosions, refinery and factory fires, and shipping disasters. At the same time, the examination finds no evidence to support other popular explanations of mine safety failures: behaviour, culture or complex technologies. It finds that there is little to differentiate the failures that lead to single death or multiple deaths and 'disaster' studies would benefit from also examining near misses. The book examines why pattern causes have proved so resistant to intervention by governments while also identifying instances where lessons have been learned. How, for example, do governments strike a balance between prescriptive regulation and risk management/system-based approaches? Only by understanding and modifying the political economy of safety can these problems be addressed. It concludes by proposing an agenda for change that will address pattern causes and contribute to safe and productive work environments. The book is written for those studying OHS, mine safety and risk management as well as those involved in the management or regulation of high hazard workplaces. In the news... Ten steps from disaster, The International Trade Union Confederation - Health & Safety News, 20 April 2015 Read full article... Disasters in high hazard workplaces are 'predictable and preventable', Hazards Magazine, March 2015 Read full article... Mine Accidents and Disaster Database, Mine Safety Institute Australia, March 2015 Read full article... OHS Reps - Research News, SafetyWebJournal, 12 February 2015 Read full article... The 10 'pattern' causes of workplace disasters, OHSAlert, 11 February 2015 Read full article... New book challenges current OHS trends, SafetyAtWorkBlog, 2 February 2015 Read full article... Tasmania needs more mines inspectors, Australian Mining, 2 October 2014 Read full article... Australian mine deaths preventable if warnings heeded, WorkSafe seminar hears, ABC News, 2 October 2014 Read full article... Lessons from Tasmania's mining industry for all workplaces, TasmanianTimes.com, 1 October 2014 Read full article... Auditor says Tasmanian Mine Safety in need of Urgent Review, Australasian Mining Review, 16 July, 2014 Read full article... Damning report on Tasmanian mine safety finds inspectors over-stretched, poorly paid, ABC News, 15 July 2014 Read full article... Call for support for grieving families backed, The Examiner, 22 April 2014 Read full article...

Volume 2: Applications of Rock Mechanics - Rock Engineering

Driving Scientific and Engineering Discoveries Through the Convergence of HPC, Big Data and AI

Probabilistic Robotics

What You Need to Know about Data Mining and Data-Analytic Thinking

Rock Engineering and Rock Mechanics: Structures in and on Rock Masses

Learning from Fatal Incidents in Mines and Other High Hazard Workplaces

This reference text discusses various security techniques and challenges for cloud data protection from both software and hardware aspects. The text provides readers with an overview of cloud computing, beginning with historical perspectives on mainframe computers and early networking protocols, moving to current issues such as security of hardware and networks, performance, evolving IoT areas, edge computing, etc. It also deals with threat detection and incident response in cloud security. It covers important topics including operational security techniques in cloud computing, cyber artificial intelligence (AI) platform for cloud security, and security concepts of virtualization in cloud computing. The book will serve as a useful resource for graduate students and professionals in the fields of electrical engineering, electronics engineering, computer science, and information technology.

The Handbook of Natural Language Processing, Second Edition presents practical tools and techniques for implementing natural language processing in computer systems. Along with removing outdated material, this edition updates every chapter and expands the content to include emerging areas, such as sentiment analysis. New to the Second Edition: Greater

Aspirations for the mining industry and Indigenous people are not creating sustainable economic futures for Indigenous people, and this demands consideration of alternate forms of economic engagement in order to realize such futures. Within the context of three mining agreements in north Australia this study considers Indigenous livelihood aspirations and their intersection with sustainable development agendas. The three agreements are the Yandi Land Use Agreement in the Central Pilbara in Western Australia, the Ranger Uranium Mine Agreement in the Kakadu region of the Northern Territory, and the Gulf Communities Agreement in relation to the Century zinc mine in the southern Gulf of Carpentaria in Queensland. Recent shifts in Indigenous policy in Australia seek to de-emphasise the cultural behaviour or imperatives of Indigenous people in undertaking economic action, in favour of a mainstream conventional approach to economic development. Concepts of value, identity, and community are key elements in the tension between culture and economics that exists in the Indigenous policy environment. Whilst significant diversity exists within the Indigenous policy, Indigenous aspirations for the future typically emphasise a desire for alternate forms of economic engagement that combine elements of the mainstream economy with the maintenance and enhancement of Indigenous institutions and livelihood activities. Such aspirations reflect ongoing and dynamic responses to modernity, and typically concern the interrelated issues of access to and management of country, the maintenance of Indigenous institutions associated with family and kin, access to resources such as cash and vehicles, the establishment of robust representative organisations, and are integrally linked to the derivation of both symbolic and economic value of livelihood pursuits.

The two-volume set Rock Mechanics and Rock Engineering is concerned with the application of the principles of mechanics to physical, chemical and electro-magnetic processes in the upper-most layers of the earth and the design and construction of the rock structures associated with civil engineering and exploitation or extraction of natural resources in mining and petroleum engineering. Volume 2, Applications of Rock Mechanics - Rock Engineering, discusses the influence of engineering structures on rock, rock excavation techniques and in-situ monitoring techniques, giving some specific examples. The dynamic effects associated with the science of earthquakes and their effect on rock structures, and the characteristics of vibrations induced by machines, blasting and impacts as well as measuring techniques are described. Furthermore, the degradation and maintenance processes in rock engineering are explained. Rock Mechanics and Rock Engineering is intended to be a fundamental resource for younger generations and newcomers and a reference book for experts specialized in Rock Mechanics and Rock Engineering and associated with the fields of mining, civil and petroleum engineering, engineering geology, and/or specialized in Geophysics and concerned with earthquake science and engineering.

Privacy and Security Challenges in Cloud Computing

Engineering for Sustainable Development

A Unified Approach to Combinatorial Optimization, Monte-Carlo Simulation and Machine Learning

Acquire the Skills in Weeks

From Basic Mechanisms to State-of-the-Art Management

Cardiac Arrhythmias

6th International Conference, ADMA 2010, Chongqing, China, November 19–21, 2010, Proceedings, Part II

The rapidly growing field of computational social choice, at the intersection of computer science and economics, deals with the computational aspects of collective decision making. This handbook, written by thirty-six prominent members of the computational social choice community, covers the field comprehensively. Chapters devoted to each of the field's major themes offer detailed introductions. Topics include voting theory (such as the computational complexity of winner determination and manipulation in elections), fair allocation (such as algorithms for dividing divisible and indivisible goods), coalition formation (such as matching and hedonic games), and many more. Graduate students, researchers, and professionals in computer science, economics, mathematics, political science, and philosophy will benefit from this accessible and self-contained book.

This book constitutes the revised selected papers of the 17th Smoky Mountains Computational Sciences and Engineering Conference, SMC 2020, held in Oak Ridge, TN, USA, in August 2020. The 36 full papers and 1 short paper presented were carefully reviewed and selected from a total of 94 submissions. The papers are organized in topical sections of computational applications: converged hybrid artificial intelligence systems; data mining and life cycle engineering; observational applications: use cases that drive requirements for AI and HPC convergence; deploying computation on the road to a converged ecosystem; scientific data challenges to the COVID-19 pandemic. The contributions were held virtually due to the COVID-19 pandemic.

This book constitutes the proceedings of the 8th International Conference on Future Data and Security Engineering, FDSE 2021, held in Ho Chi Minh City, Vietnam, in November 2021. The 28 full papers and 8 short were carefully reviewed and selected from 168 submissions. The selected papers are organized into the following topical headings: big data analytics and distributed systems; security and privacy engineering; industry 4.0 and smart city; data analytics and security; blockchain and access control; data analytics and healthcare systems; and short papers: security and data engineering. The conference was held virtually due to the COVID-19 pandemic.

Biochar is the carbon-rich product when biomass (such as wood, manure or crop residues) is heated in a closed container with little or no available air. It can be used to improve agriculture and the environment in several ways, and its stability in soil and superior nutrient-retention properties make it an ideal soil amendment to increase crop yields. In addition to this, biochar sequestration, in combination with sustainable biomass production, can be carbon-negative and therefore used to actively remove carbon dioxide from the atmosphere, with major implications for mitigation of climate change. Biochar production can also be combined with bioenergy production through the use of the gases that are given off in the pyrolysis process. This book is the first to synthesize the expanding research literature on this topic. The book's interdisciplinary approach, which covers engineering, environmental sciences, agricultural sciences, economics and policy, is a vital tool at this stage of biochar technology development. This comprehensive overview of current knowledge will be of interest to advanced students, researchers and professionals in a wide range of disciplines.

Pattern Learning and Mining from Evolving Data Streams

Report Writing Guide for Engineers

Extracting Nature and Identity in the Appalachian Coalfields

Think Like An Architect

Rock Mechanics and Rock Engineering

Towards the Circular Economy

Science and Technology

This book is a significant contribution to the subject of mining time-changing data streams and addresses the design of learning algorithms for this purpose. It introduces new contributions on several different aspects of the problem, identifying research opportunities and increasing the scope for applications. It also includes an in-depth study of stream mining and a theoretical analysis of proposed methods and algorithms. The first section is concerned with the use of an adaptive sliding window algorithm (ADWIN). Since this has rigorous performance guarantees, using it in place of counters or accumulators, it offers the possibility of extending such guarantees to learning and mining algorithms not initially designed for drifting data. Testing with several methods, including Naive Bayes, clustering, decision trees and ensemble methods, is discussed as well. The second part of the book describes a formal study of connected acyclic graphs, or 'trees', from the point of view of closure-based mining, presenting efficient algorithms for subtree testing and for mining ordered and unordered frequent closed trees. Lastly, a general methodology to identify closed patterns in a data stream is outlined. This is applied to develop an incremental method, a sliding-window based method, and a method that mines closed trees adaptively from data streams. These are used to introduce classification methods for tree data streams."

This book covers all the major aspects associated with pathophysiological development of cardiac arrhythmias (covering enhanced or suppressed automaticity, triggered activity, or re-entry), from basic concepts through disease association, limitations of current pharmacotherapy and implant techniques and on-going trials and analysis of new biomarkers based on current knowledge of cellular interaction and signalling. The book describes novel and state-of-the-art methods for differentiation between the major types of arrhythmia, structural abnormalities and current practice guidelines and a determination of risk stratification with sudden cardiac death. A particular focus is on arrhythmias associated with atrial fibrillation and includes details of associations with cardiac disease, current detection, analysis and imaging and future perspectives. This updated and expanded edition of the book includes four additional chapters on earthwork on sloping sites; transitional curves and super elevation; calculations of super elevations on composite curves; and underground mine surveying. Richly illustrated with diagrams, equations and tables as well as examples of every day survey tasks. It also covers new topics, such as the global navigation satellite system's (Real Time Kinematic-RTK), which are increasingly used in a wide range of everyday engineering applications.

Rock Engineering and Rock Mechanics: Structures in and on Rock Masses covers the most important topics and state-of-the-art in the area of rock mechanics, with an emphasis on structures in and on rock masses. The 255 contributions (including 6 keynote lectures) from the 2014 ISRM European Rock Mechanics Symposium (EUROCK 2014, Vigo, Spain, 27–29 Ma

Ethics of Chemistry: From Poison Gas To Climate Engineering

A Holistic Approach

2019 Rock Dynamics Summit

8th International Conference, FDSE 2021, Virtual Event, November 24–26, 2021, Proceedings

17th Smoky Mountains Computational Sciences and Engineering Conference, SMC 2020, Oak Ridge, TN, USA, August 26–28, 2020, Revised Selected Papers

A Century of Innovation

For Mining Engineers

An ethnography of coal country in southern West Virginia.

This book teaches readers ground engineering principles and related mining and risk management practices associated with underground coal mining. It establishes the basic elements of risk management and the fundamental principles of ground behaviour and then applies these to the essential building blocks of any underground coal mining system, comprising excavations, pillars, and interactions between workings. Readers will also learn about types of ground support and reinforcement systems and their operating mechanisms. These elements provide the platform whereby the principles can be applied to mining practice and risk management, directed primarily to bord and pillar mining, pillar extraction, longwall mining, sub-surface and surface subsidence, and operational hazards. The text concludes by presenting the framework of risk-based ground control management systems for achieving safe workplaces and efficient mining operations. In addition, a comprehensive reference list provides authors of various books and hard mining situations in order to demonstrate the application, or absence, of the established principles in practice. Written by an expert in underground coal mining and risk management, this book will help students and practitioners gain a deep understanding of the basic principles behind designing and conducting mining operations that are safe, efficient, and economically viable. Provides a comprehensive coverage of ground engineering principles within a risk management framework. Features a large variety of examples that show good and poor mining situations in order to demonstrate the application of the established principles in practice. Ideal for students and practitioners. About the author: Emeritus Professor Jim Galvin has a relatively unique combination of industrial, research and academic experience in the mining industry that spans specialist research and applied knowledge in ground engineering, mine management and risk management. His career encompasses directing ground engineering research groups in South Africa and Australia; practical mining experience, including active participation in the mines rescue service and responsibility for the design, operation, and management of large underground coal mines and for the consequences of loss of ground control as a mine manager; appointments as Professor and Head of the School of Mining Engineering at the University of New South Wales; and safety advisor to a number of Boards of Directors of organisations associated with mining. Awards Winner of the ACARP Excellence Research Award 2016. The Australian Coal Industry's Research Program selects recipients to receive ACARP Research and Industry Excellence Awards every two years. The recipients are selected on the recommendation of technical committees. They are honored for achievement of a considerable advance in an area of importance to the Australian coal mining industry. An important criterion is the likelihood of the results from the project being applied in mines. Winner of the Merv Harris Award from the Mine Managers Association of Australia. The Merv Harris Award is named for Merv Harris who donated money to be invested for a continuing award in 1988. With the award, the Mine Managers Association of Australia honors members of the Association who demonstrate technical achievement in the Australian Coal Mining Industry. The first award was granted in 1990, since then, only two people have received this honor. The book has received the following awards.... AGS (Australian Geomechanics Society) congratulates Dr Galvin for these awards

The North American Tunneling Conference is the premier forum to discuss new trends and developments in underground construction in North America. With every conference, the number of attendees and breadth of topics grows. North American Tunneling: 2014 Proceedings reflects the theme for the 2014 conference, "Mission Possible." The authors share new theories, novel innovations, and the latest tools that make what once may have been perceived as impossible, now possible. The authors of 128 papers share the latest case histories, expertise, lessons learned, and real-world applications from around the globe on a wide range of topics. They cover the successes and failures of challenging construction projects. Read about challenging design issues, fresh approaches on performance, future projects, and industry trends as well as support, structure analysis, risk and cost management, rock tunnels, caverns and shafts, TBM technology and selection, and water and wastewater conveyance.

First published in 2002. Routledge is an imprint of Taylor & Francis, an informa company.

Rock Mechanics and Rock Engineering: From the Past to the Future

An Introduction to Microstructures, Processing and Design

North American Tunneling: 2014 Proceedings

Ground Engineering - Principles and Practices for Underground Coal Mining

How to develop critical, creative and collaborative problem-solving skills

Advances in Healthcare Informatics and Analytics

Handbook of Computational Social Choice