

Data Mining Smu

Online social networking sites like Facebook, LinkedIn, and Twitter, offer millions of members the opportunity to befriend one another, send messages to each other, and post content on the site — actions which generate mind-boggling amounts of data every day. To make sense of the massive data from these sites, we resort to social media mining to answer questions like the following: Social media shatters the boundaries between the real world and the virtual world. We can now integrate social theories with computational methods to study how individuals interact with each other and how social communities form in bipartite and signed networks. The uniqueness of social media data calls for novel data mining techniques that can effectively handle user generated content with rich social relations. The study and development of these new techniques are under the purview of social media mining, an emerging discipline under the umbrella of data mining. Social Media Mining is the process of representing, analyzing, and extracting actionable patterns from social media data.

The book features research papers presented at the International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2018) held at the University of Engineering & Management, Kolkata, India, on February 23–25, 2018. It comprises high-quality research by academics and industrial experts in the field of computing and communication, including full-length papers, research-in-progress

papers, case studies related to all the areas of data mining, machine learning, IoT and information security.

This book constitutes the thoroughly refereed conference proceedings of the 14th International Conference on Rough Sets, Fuzzy Sets, Data Mining and Granular Computing, RSFDGrC 2013, held in Halifax, Canada in October 2013 as one of the co-located conference of the 2013 Joint Rough Set Symposium, JRS 2013. The 69 papers (including 44 regular and 25 short papers) included in the JRS proceedings (LNCS 8170 and LNCS 8171) were carefully reviewed and selected from 106 submissions. The papers in this volume cover topics such as inconsistency, incompleteness, non-determinism; fuzzy and rough hybridization; granular computing and covering-based rough sets; soft clustering; image and medical data analysis.

Applied Mineral Inventory Estimation presents a comprehensive applied approach to the estimation of mineral resources/reserves with particular emphasis on the geological basis of such estimations, the need for and maintenance of a high quality assay data base, the practical use of a comprehensive exploratory data evaluation, and the importance of a comprehensive geostatistical approach to the estimation methodology. Practical problems and real data are used throughout as illustrations: each chapter ends with a summary of practical concerns, a number of practical exercises and a short list of references for supplementary study. This textbook is suitable for any university or mining school that offers senior undergraduate and graduate student courses on

mineral resource/reserve estimation. It will also be valuable for professional mining engineers, geological engineers and geologists working with mineral exploration and mining companies.

This book contains selected contributions presented at the 10th International Geostatistics Congress held in Valencia from 5 to 9 September, 2016. This is a quadrennial congress that serves as the meeting point for any engineer, professional, practitioner or scientist working in geostatistics. The book contains carefully reviewed papers on geostatistical theory and applications in fields such as mining engineering, petroleum engineering, environmental science, hydrology, ecology, and other fields. The two-volume set LNAI 7818 + LNAI 7819 constitutes the refereed proceedings of the 17th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2013, held in Gold Coast, Australia, in April 2013. The total of 98 papers presented in these proceedings was carefully reviewed and selected from 363 submissions. They cover the general fields of data mining and KDD extensively, including pattern mining, classification, graph mining, applications, machine learning, feature selection and dimensionality reduction, multiple information sources mining, social networks, clustering, text mining, text classification, imbalanced data, privacy-preserving data mining, recommendation, multimedia data mining, stream data mining, data preprocessing and representation.

Virtually all nontrivial and modern service related problems and systems involve data

volumes and types that clearly fall into what is presently meant as "big data", that is, are huge, heterogeneous, complex, distributed, etc. Data mining is a series of processes which include collecting and accumulating data, modeling phenomena, and discovering new information, and it is one of the most important steps to scientific analysis of the processes of services. Data mining application in services requires a thorough understanding of the characteristics of each service and knowledge of the compatibility of data mining technology within each particular service, rather than knowledge only in calculation speed and prediction accuracy. Varied examples of services provided in this book will help readers understand the relation between services and data mining technology. This book is intended to stimulate interest among researchers and practitioners in the relation between data mining technology and its application to other fields.

The second edition of a bestseller, *Statistical and Machine-Learning Data Mining: Techniques for Better Predictive Modeling and Analysis of Big Data* is still the only book, to date, to distinguish between statistical data mining and machine-learning data mining. The first edition, titled *Statistical Modeling and Analysis for Database Marketing: Effective Techniques for Mining Big Data*, contained 17 chapters of innovative and practical statistical data mining techniques. In this second edition, renamed to reflect the increased coverage of machine-learning data mining techniques, the author has completely revised, reorganized, and repositioned the original chapters and produced

14 new chapters of creative and useful machine-learning data mining techniques. In sum, the 31 chapters of simple yet insightful quantitative techniques make this book unique in the field of data mining literature. The statistical data mining methods effectively consider big data for identifying structures (variables) with the appropriate predictive power in order to yield reliable and robust large-scale statistical models and analyses. In contrast, the author's own GenIQ Model provides machine-learning solutions to common and virtually unapproachable statistical problems. GenIQ makes this possible — its utilitarian data mining features start where statistical data mining stops. This book contains essays offering detailed background, discussion, and illustration of specific methods for solving the most commonly experienced problems in predictive modeling and analysis of big data. They address each methodology and assign its application to a specific type of problem. To better ground readers, the book provides an in-depth discussion of the basic methodologies of predictive modeling and analysis. While this type of overview has been attempted before, this approach offers a truly nitty-gritty, step-by-step method that both tyros and experts in the field can enjoy playing with.

This book presents recent advances in the theory and implementation of intelligent and other computational techniques in the insurance industry. The paradigms covered encompass artificial neural networks and fuzzy systems, including clustering versions, optimization and resampling methods, algebraic

and Bayesian models, decision trees and regression splines. Thus, the focus is not just on intelligent techniques, although these constitute a major component; the book also deals with other current computational paradigms that are likely to impact on the industry. The application areas include asset allocation, asset and liability management, cash-flow analysis, claim costs, classification, fraud detection, insolvency, investments, loss distributions, marketing, pricing and premiums, rate-making, retention, survival analysis, and underwriting.

The three-volume set LNAI 11439, 11440, and 11441 constitutes the thoroughly refereed proceedings of the 23rd Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2019, held in Macau, China, in April 2019. The 137 full papers presented were carefully reviewed and selected from 542 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: classification and supervised learning; text and opinion mining; spatio-temporal and stream data mining; factor and tensor analysis; healthcare, bioinformatics and related topics; clustering and anomaly detection; deep learning models and

applications; sequential pattern mining; weakly supervised learning; recommender system; social network and graph mining; data pre-processing and feature selection; representation learning and embedding; mining unstructured and semi-structured data; behavioral data mining; visual data mining; and knowledge graph and interpretable data mining.

This book provides a detailed overview of the operational principles of modern mining geology, which are presented as a good mix of theory and practice, allowing use by a broad range of specialists, from students to lecturers and experienced geologists. The book includes comprehensive descriptions of mining geology techniques, including conventional methods and new approaches. The attributes presented in the book can be used as a reference and as a guide by mining industry specialists developing mining projects and for optimizing mining geology procedures. Applications of the methods are explained using case studies and are facilitated by the computer scripts added to the book as Electronic Supplementary Material.

This book describes an innovative closed-loop concept that allows the feedback of online data from operational monitoring to create mining intelligence. The application of this concept promises significant improvements in economic and environmental key performance indicators for any mining operation. Combining

theory with industrial case studies, the book guides readers through this process by providing theoretical background, addressing practical issues related to operational implementation, and illustrating the impact on selected examples. This new concept is presented using the example of a bulk and gold mining application, but is applicable at any mine where grade control is important. The book is of interest to industrial professionals involved in operational monitoring, mining intelligence, and mine planning optimization, as well as to researchers and academics in the field of applied geostatistics.

In this book the author provides the reader with a comprehensive coverage of data mining topics and algorithms. Data base perspective is maintained throughout the book which provides students with a focused discussion of algorithms, data structures, data types and complexity of algorithms and space. It also emphasizes the use of data mining concepts in real-world applications with large database components.

This book constitutes the refereed proceedings of the 13th International Conference on Advanced Data Mining and Applications, ADMA 2017, held in Singapore in November 2017. The 20 full and 38 short papers presented in this volume were carefully reviewed and selected from 118 submissions. The papers were organized in topical sections named: database and distributed machine

learning; recommender system; social network and social media; machine learning; classification and clustering methods; behavior modeling and user profiling; bioinformatics and medical data analysis; spatio-temporal data; natural language processing and text mining; data mining applications; applications; and demos.

Welcome to the 12th International Conference on Rough Sets, Fuzzy Sets, Data Mining and Granular Computing (RSFDGrC 2009), held at the Indian Institute of Technology (IIT), Delhi, India, during December 15-18, 2009. RSFDGrC is a series of conferences spanning over the last 15 years. It investigates the meeting points among the four major areas outlined in its title. This year, it was co-organized with the Third International Conference on Pattern Recognition and Machine Intelligence (PRMI 2009), which provided additional means for multifaceted interaction of both scientists and practitioners. It was also the core component of this year's Rough Set Year in India project. However, it remained a fully international event aimed at building bridges between countries. The first section contains the invited papers and a short report on the aforementioned project. Let us note that all the RSFDGrC 2009 plenary speakers, Ivo Düntsch, Zbigniew Suraj, Zhongzhi Shi, Sergei Kuznetsov, Qiang Shen, and Yukio Ohsawa, contributed with the full-length articles in the proceedings. The remaining six

sections contain 56 regular papers that were selected out of 130 submissions, each peer-reviewed by three PC members. We thank the authors for their high-quality papers submitted to this volume and regret that many deserving papers could not be accepted because of our urge to maintain strict standards. It is worth mentioning that there was quite a good number of papers on the foundations of rough sets and fuzzy sets, many of them authored by Indian researchers. The fuzzy set theory has been popular in India for a longer time. Now, we can see the rising interest in the rough set theory.

The two-volume set LNAI 12084 and 12085 constitutes the thoroughly refereed proceedings of the 24th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2020, which was due to be held in Singapore, in May 2020. The conference was held virtually due to the COVID-19 pandemic. The 135 full papers presented were carefully reviewed and selected from 628 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: recommender systems; classification; clustering; mining social networks;

representation learning and embedding; mining behavioral data; deep learning; feature extraction and selection; human, domain, organizational and social factors in data mining; mining sequential data; mining imbalanced data; association; privacy and security; supervised learning; novel algorithms; mining multi-media/multi-dimensional data; application; mining graph and network data; anomaly detection and analytics; mining spatial, temporal, unstructured and semi-structured data; sentiment analysis; statistical/graphical model; multi-source/distributed/parallel/cloud computing.

This book constitutes the refereed proceedings of the 7th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2003, held in Seoul, Korea in April/May 2003. The 38 revised full papers and 20 revised short papers presented together with two invited industrial contributions were carefully reviewed and selected from 215 submissions. The papers are presented in topical sections on stream mining, graph mining, clustering, text mining, Bayesian networks, association rules, semi-structured data mining, classification, data analysis, and feature selection.

Winner, 2018 Law & Legal Studies PROSE Award
The consequences of big data and algorithm-driven policing and its impact on law enforcement
In a high-tech command center in downtown Los Angeles, a digital map lights up with 911 calls, television monitors track breaking news stories, surveillance cameras sweep the streets, and

rows of networked computers link analysts and police officers to a wealth of law enforcement intelligence. This is just a glimpse into a future where software predicts future crimes, algorithms generate virtual “most-wanted” lists, and databanks collect personal and biometric information. The Rise of Big Data Policing introduces the cutting-edge technology that is changing how the police do their jobs and shows why it is more important than ever that citizens understand the far-reaching consequences of big data surveillance as a law enforcement tool. Andrew Guthrie Ferguson reveals how these new technologies—viewed as race-neutral and objective—have been eagerly adopted by police departments hoping to distance themselves from claims of racial bias and unconstitutional practices. After a series of high-profile police shootings and federal investigations into systemic police misconduct, and in an era of law enforcement budget cutbacks, data-driven policing has been billed as a way to “turn the page” on racial bias. But behind the data are real people, and difficult questions remain about racial discrimination and the potential to distort constitutional protections. In this first book on big data policing, Ferguson offers an examination of how new technologies will alter the who, where, when and how we police. These new technologies also offer data-driven methods to improve police accountability and to remedy the underlying socio-economic risk factors that encourage crime. The Rise of Big Data Policing is a must read for anyone concerned with how technology will revolutionize law enforcement and its potential threat to the security, privacy, and constitutional rights of citizens. Read an

excerpt and interview with Andrew Guthrie Ferguson in The Economist.

Consists of 72 full papers and 49 short papers from the December 2002 conference on the design, analysis, and implementation of data mining theory, systems, and applications. Topics of the full papers include evolutionary time series segmentation for stock data mining, cluster merging and splitting

As technology continues to advance, it is critical for businesses to implement systems that can support the transformation of data into information that is crucial for the success of the company. Without the integration of data (both structured and unstructured) mining in business intelligence systems, invaluable knowledge is lost. However, there are currently many different models and approaches that must be explored to determine the best method of integration. Integration Challenges for Analytics, Business Intelligence, and Data Mining is a relevant academic book that provides empirical research findings on increasing the understanding of using data mining in the context of business intelligence and analytics systems. Covering topics that include big data, artificial intelligence, and decision making, this book is an ideal reference source for professionals working in the areas of data mining, business intelligence, and analytics; data scientists; IT specialists; managers; researchers; academicians; practitioners; and graduate students.

This book addresses the practice of geostatistical simulation to evaluation of mineral reserves, prediction of recovered tonnages and mineral grades and the impact of

mining dilution. Such prediction is absolutely critical for mine planning and investment decisions, yet it cannot be made on maps directly interpolated from present data. Various dilution factors need to be introduced to account for - the support effect: mining unit volumes are vastly different from composite data unit volumes - the information effect: future selection of ore/waste will be based on vastly different data than that presently available. Geostatistical simulations allow a rigorous evaluation of these effects on reserves recovery. These stochastic simulations have the potential to be for the mining industry what a wind tunnel is for aircraft design. This book is written by two expert geostatisticians--Journel is the pioneer of mining geostatistics--and established academics.

Social media data contains our communication and online sharing, mirroring our daily life. This book looks at how we can use and what we can discover from such big data: Basic knowledge (data & challenges) on social media analytics Clustering as a fundamental technique for unsupervised knowledge discovery and data mining A class of neural inspired algorithms, based on adaptive resonance theory (ART), tackling challenges in big social media data clustering Step-by-step practices of developing unsupervised machine learning algorithms for real-world applications in social media domain Adaptive Resonance Theory in Social Media Data Clustering stands on the fundamental breakthrough in cognitive and neural theory, i.e. adaptive resonance theory, which simulates how a brain processes information to perform memory,

learning, recognition, and prediction. It presents initiatives on the mathematical demonstration of ART's learning mechanisms in clustering, and illustrates how to extend the base ART model to handle the complexity and characteristics of social media data and perform associative analytical tasks. Both cutting-edge research and real-world practices on machine learning and social media analytics are included in the book and if you wish to learn the answers to the following questions, this book is for you: How to process big streams of multimedia data? How to analyze social networks with heterogeneous data? How to understand a user's interests by learning from online posts and behaviors? How to create a personalized search engine by automatically indexing and searching multimodal information resources? .

This book constitutes the refereed proceedings of the First International Symposium on Computational and Information Science, CIS 2004, held in Shanghai, China in December 2004. The 190 revised papers presented were carefully reviewed and selected from 450 submissions. The papers address virtually all computational and algorithmic aspects in various sciences, mathematics, and engineering as well as data and information engineering. The papers are organized in four main parts on high performance computing and algorithms, computational modeling and simulation, bioinformatics and medical informatics, and data engineering and information science. This book constitutes the refereed proceedings of the 10th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2006, held in Singapore in April 2006.

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The 67 revised full papers and 33 revised short papers presented together with 3 invited talks were carefully reviewed and selected from 501 submissions. The papers are organized in topical sections on Classification, Ensemble Learning, Clustering, Support Vector Machines, Text and Document Mining, Web Mining, Bio-Data Mining, and more.

This book presents a collection of papers on topics in the field of strategic mine planning, including orebody modeling, mine-planning optimization and the optimization of mining complexes. Elaborating on the state of the art in the field, it describes the latest technologies and related research as well as the applications of a range of related technologies in diverse industrial contexts.

The Fifth SIAM International Conference on Data Mining continues the tradition of providing an open forum for the presentation and discussion of innovative algorithms as well as novel applications of data mining. Advances in information technology and data collection methods have led to the availability of large data sets in commercial enterprises and in a wide variety of scientific and engineering disciplines. The field of data mining draws upon extensive work in areas such as statistics, machine learning, pattern recognition, databases, and high performance computing to discover interesting and previously unknown information in data. This conference results in data mining, including applications, algorithms, software, and systems.

The Fuzzy Systems and Data Mining (FSDM) conference is an annual event encompassing four main themes: fuzzy theory, algorithms and systems, which includes topics like stability,

foundations and control; fuzzy application, which covers different kinds of processing as well as hardware and architectures for big data and time series and has wide applicability; the interdisciplinary field of fuzzy logic and data mining, encompassing applications in electrical, industrial, chemical and engineering fields as well as management and environmental issues; and data mining, outlining new approaches to big data, massive data, scalable, parallel and distributed algorithms. The annual conference provides a platform for knowledge exchange between international experts, researchers, academics and delegates from industry. This book includes the papers accepted and presented at the 5th International Conference on Fuzzy Systems and Data Mining (FSDM 2019), held in Kitakyushu, Japan on 18-21 October 2019. This year, FSDM received 442 submissions. All papers were carefully reviewed by program committee members, taking account of the quality, novelty, soundness, breadth and depth of the research topics falling within the scope of FSDM. The committee finally decided to accept 137 papers, which represents an acceptance rate of about 30%. The papers presented here are arranged in two sections: Fuzzy Sets and Data Mining, and Communications and Networks. Providing an overview of the most recent scientific and technological advances in the fields of fuzzy systems and data mining, the book will be of interest to all those working in these fields.

This text covers the use of computer applications in the mineral industries, encompassing topics such as the use of computer visualization in mining systems and aspects such as ventilation and safety.

An accessible primer on how to create effective graphics from data This book provides students and researchers a hands-on introduction to the principles and practice of data

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visualization. It explains what makes some graphs succeed while others fail, how to make high-quality figures from data using powerful and reproducible methods, and how to think about data visualization in an honest and effective way. Data Visualization builds the reader's expertise in ggplot2, a versatile visualization library for the R programming language. Through a series of worked examples, this accessible primer then demonstrates how to create plots piece by piece, beginning with summaries of single variables and moving on to more complex graphics. Topics include plotting continuous and categorical variables; layering information on graphics; producing effective "small multiple" plots; grouping, summarizing, and transforming data for plotting; creating maps; working with the output of statistical models; and refining plots to make them more comprehensible. Effective graphics are essential to communicating ideas and a great way to better understand data. This book provides the practical skills students and practitioners need to visualize quantitative data and get the most out of their research findings. Provides hands-on instruction using R and ggplot2 Shows how the "tidyverse" of data analysis tools makes working with R easier and more consistent Includes a library of data sets, code, and functions

Data science is proving to be one of the major trends of the second decade of the 21st century. Even though the term was coined by Peter Naur in the mid 1960s as 'datalogy', or the science of data, it is in the context of data analytics, and especially of big data, that data science has emerged as the new paradigm. Fuzzy and Crisp strategies are two of the most widespread approaches within the computational intelligence umbrella. This book presents 65 papers from the 3rd International Conference on Fuzzy Systems and Data Mining (FSDM 2017), held in Hualien, Taiwan, in November 2017. All papers were carefully reviewed by

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program committee members, who took into consideration the breadth and depth of the research topics that fall within the scope of FSDM. Offering a state-of-the-art overview of fuzzy systems and data mining, the publication will be of interest to all those whose work involves data science.

There is no royal road to science, and only those who do not dread the fatiguing climb of its steep paths have a chance of gaining its luminous summits. Karl Marx A Universal Genius of the 19th Century Many scientists from all over the world during the past two years since the MLDM 2007 have come along on the stony way to the sunny summit of science and have worked hard on new ideas and applications in the area of data mining in pattern recognition. Our thanks go to all those who took part in this year's MLDM. We appreciate their submissions and the ideas shared with the Program Committee. We received over 205 submissions from all over the world to the International Conference on Chinese Learning and Data Mining, MLDM 2009. The Program Committee carefully selected the best papers for this year's program and gave detailed comments on each submitted paper. There were 63 papers selected for oral presentation and 17 papers for poster presentation. The topics range from theoretical topics for classification, clustering, association rule and pattern mining to specific data-mining methods for the different multimedia data types such as image mining, text mining, video mining and Web mining. Among these topics this year were special contributions to subtopics such as attribute discretization and data preparation, novelty and outlier detection, and distances and similarities.

This volume provides a snapshot of the current state of the art in data mining, presenting it both in terms of technical developments and industrial applications. The collection of chapters

is based on works presented at the Australasian Data Mining conferences and industrial forums. Authors include some of Australia's leading researchers and practitioners in data mining. The volume also contains chapters by regional and international authors. These two-volume books comprise the post-conference proceedings of the 14th International Conference on Neural Information Processing (ICONIP 2007) held in Kitakyushu, Japan, during November 13–16, 2007. The Asia Pacific Neural Network Assembly (APNNA) was founded in 1993. The first ICONIP was held in 1994 in Seoul, Korea, sponsored by APNNA in collaboration with regional organizations. Since then, ICONIP has consistently provided prestigious opportunities for presenting and exchanging ideas on neural networks and related fields. Research fields covered by ICONIP have now expanded to include such fields as bioinformatics, brain machine interfaces, robotics, and computational intelligence. We had 288 ordinary paper submissions and 3 special organized session proposals. Although the quality of submitted papers on the average was exceptionally high, only 60% of them were accepted after rigorous reviews, each paper being reviewed by three reviewers. Concerning special organized session proposals, two out of three were accepted. In addition to ordinary submitted papers, we invited 15 special organized sessions organized by leading researchers in emerging fields to promote future expansion of neural information processing. ICONIP 2007 was held at the newly established Kitakyushu Science and Research Park in Kitakyushu, Japan. Its theme was “Towards

an Integrated Approach to the Brain—Brain-Inspired Engineering and Brain Science,” which emphasizes the need for cross-disciplinary approaches for understanding brain functions and utilizing the knowledge for contributions to the society. It was jointly sponsored by APNNA, Japanese Neural Network Society (JNNS), and the 21st century COE program at Kyushu Institute of Technology.

The variety, pace, and power of technological innovations that have emerged in the 21st Century have been breathtaking. These technological developments, which include advances in networked information and communications, biotechnology, neurotechnology, nanotechnology, robotics, and environmental engineering technology, have raised a number of vital and complex questions. Although these technologies have the potential to generate positive transformation and help address 'grand societal challenges', the novelty associated with technological innovation has also been accompanied by anxieties about their risks and destabilizing effects. Is there a potential harm to human health or the environment? What are the ethical implications? Do these innovations erode or antagonize values such as human dignity, privacy, democracy, or other norms underpinning existing bodies of law and regulation? These technological developments have therefore spawned a nascent but growing body of 'law and technology' scholarship, broadly concerned with exploring the legal, social and ethical dimensions of technological innovation. This handbook collates the many and varied strands of this scholarship, focusing broadly across a range of new and emerging

technology and a vast array of social and policy sectors, through which leading scholars in the field interrogate the interfaces between law, emerging technology, and regulation. Structured in five parts, the handbook (I) establishes the collection of essays within existing scholarship concerned with law and technology as well as regulatory governance; (II) explores the relationship between technology development by focusing on core concepts and values which technological developments implicate; (III) studies the challenges for law in responding to the emergence of new technologies, examining how legal norms, doctrine and institutions have been shaped, challenged and destabilized by technology, and even how technologies have been shaped by legal regimes; (IV) provides a critical exploration of the implications of technological innovation, examining the ways in which technological innovation has generated challenges for regulators in the governance of technological development, and the implications of employing new technologies as an instrument of regulatory governance; (V) explores various interfaces between law, regulatory governance, and new technologies across a range of key social domains.

Rough Sets and Data Mining: Analysis of Imprecise Data is an edited collection of research chapters on the most recent developments in rough set theory and data mining. The chapters in this work cover a range of topics that focus on discovering dependencies among data, and reasoning about vague, uncertain and imprecise information. The authors of these chapters have been careful to include fundamental

research with explanations as well as coverage of rough set tools that can be used for mining data bases. The contributing authors consist of some of the leading scholars in the fields of rough sets, data mining, machine learning and other areas of artificial intelligence. Among the list of contributors are Z. Pawlak, J Grzymala-Busse, K. Slowinski, and others. Rough Sets and Data Mining: Analysis of Imprecise Data will be a useful reference work for rough set researchers, data base designers and developers, and for researchers new to the areas of data mining and rough sets.

This book constitutes the proceedings of the 14th Pacific-Asia Conference, PAKDD 2010, held in Hyderabad, India, in June 2010.

The World Wide Web has become an extremely popular way of publishing and distributing electronic resources. Though the Web is rich with information, collecting and making sense of this data is difficult because it is rather unorganized. Building an Intelligent Web introduces students and professionals to the state-of-the art development of Web Intelligence techniques and teaches how to apply these techniques to develop the next generation of intelligent Web sites. Each chapter contains theoretical bases, which are also illustrated with the help of simple numeric examples, followed by practical implementation. Students will find Building an Intelligent Web to be an active and exciting introduction to advanced Web mining topics. Topics covered include Web Intelligence, Information Retrieval, Semantic Web, Classification and Association Rules, SQL, Database Theory, Applications to e-commerce and

Bioinformatics, Clustering, Modeling Web Topology, and much more!

Mineral resource estimation has changed considerably in the past 25 years: geostatistical techniques have become commonplace and continue to evolve; computational horsepower has revolutionized all facets of numerical modeling; mining and processing operations are often larger; and uncertainty quantification is becoming standard practice. Recent books focus on historical methods or details of geostatistical theory. So there is a growing need to collect and synthesize the practice of modern mineral resource estimation into a book for undergraduate students, beginning graduate students, and young geologists and engineers. It is especially fruitful that this book is written by authors with years of relevant experience performing mineral resource estimation and with years of relevant teaching experience. This comprehensive textbook and reference fills this need.

This book analyses the legal approach to personal data taken by different fields of law. An increasing number of business models in the digital economy rely on personal data as a key input. In exchange for sharing their data, online users benefit from personalized and innovative services. But companies' collection and use of personal data raise questions about privacy and fundamental rights. Moreover, given the substantial commercial and strategic value of personal data, their accumulation, control and use may raise competition concerns and negatively affect consumers. To establish a legal framework that ensures an adequate level of protection of personal data while at

the same time providing an open and level playing field for businesses to develop innovative data-based services is a challenging task. With this objective in mind and against the background of the uniform rules set by the EU General Data Protection Regulation, the contributions to this book examine the significance and legal treatment of personal data in competition law, consumer protection law, general civil law and intellectual property law. Instead of providing an isolated analysis of the different areas of law, the book focuses on both synergies and tensions between the different legal fields, exploring potential ways to develop an integrated legal approach to personal data.

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