

Maths Telematics March 2014 Grade 12 Paper 1

Road pricing is not a new concept—toll roads have existed in Australia since Governor Macquarie established one from Sydney to Parramatta in 1811—and distance-based charging schemes have been trialled and implemented with varying success overseas. But how would full market reform of roads look in a federation like Australia? In its responses to the 2016 Australian Infrastructure Plan and the 2015 Competition Policy Review, the Australian Government explicitly supported investigating cost-reflective road pricing as a long-term reform option, and has committed to establishing a study chaired by an eminent Australian to look into the potential impacts of road pricing reform on road users. The challenges we face in this space are manifold and complex, and we still have a long road ahead of us. However, with advocacy for reform coming from interest groups as diverse as governments, private transport companies, peak industry bodies, policy think tanks and state motoring clubs, there is now more support than ever before for changing the way we provide for and fund our roads. This book seeks to advance the road reform agenda by presenting some of the latest thinking on road pricing and provision from a variety of disciplinary approaches—researchers, economists and public sector leaders. It stresses the need for reform to ensure Australians can enjoy the benefits of efficient and sustainable transport infrastructure as our population and major metropolitan cities continue to grow. Traffic congestion is avoidable, but we must act soon. The works presented here all point to the need for change—the expertise and the technology are available, and the various reform options have been mapped out in some detail. It is time for the policy debate to shift to how, rather than if, road reform should progress.

There are a wide range of variables for actuaries to consider when calculating a motorist's insurance premium, such as age, gender and type of vehicle. Further to these factors, motorists' rates are subject to experience rating systems, including credibility mechanisms and Bonus Malus systems (BMSs). *Actuarial Modelling of Claim Counts* presents a comprehensive treatment of the various experience rating systems and their relationships with risk classification. The authors summarize the most recent developments in the field, presenting ratemaking systems, whilst taking into account exogenous information. The text: Offers the first self-contained, practical approach to a priori and a posteriori ratemaking in motor insurance. Discusses the issues of claim frequency and claim severity, multi-event systems, and the combinations of deductibles and BMSs. Introduces recent developments in actuarial science and exploits the generalised linear model and generalised linear mixed model to achieve risk classification. Presents credibility mechanisms as refinements of commercial BMSs. Provides practical applications with real data sets processed with SAS software. *Actuarial Modelling of Claim Counts* is essential reading for students in actuarial science, as well as practicing and academic actuaries. It is also ideally suited for professionals involved in the insurance industry, applied mathematicians, quantitative economists, financial engineers and statisticians.

This book features research presented and discussed during the Research & Innovation Forum (Rii Forum) 2020. As such, this book offers a unique insight into emerging topics, issues and developments pertinent to the fields of technology, innovation and

education and their social impact. Papers included in this book apply inter- and multi-disciplinary approaches to query such issues as technology-enhanced teaching and learning, smart cities, information systems, cognitive computing and social networking. What brings these threads of the discussion together is the question of how advances in computer science – which are otherwise largely incomprehensible to researchers from other fields – can be effectively translated and capitalized on so as to make them beneficial for society as a whole. In this context, Rii Forum and Rii Forum proceedings offer an essential venue where diverse stakeholders, including academics, the think tank sector and decision-makers, can engage in a meaningful dialogue with a view to improving the applicability of advances in computer science.

This book constitutes selected papers from the 20th International Conference on Transport Systems Telematics, TST 2020, held in Kraków, Poland, in October 2020. The 34 full papers presented in this volume were carefully reviewed and selected from 97 submissions. They were organized in topical sections named: telematics in road transport - general view; telematics in road transport - details in applications.- telematics in rail and marine transport; general about telematics.

Smart Education and e-Learning 2016

17th International Conference, ICOST 2019, New York City, NY, USA, October 14-16, 2019, Proceedings

How AI Impacts Urban Living and Public Health

Applications of Big Data in Large- and Small-Scale Systems

Quantifying the User Experience

I Am Malala

20th International Conference on Transport Systems Telematics, TST 2020, Kraków, Poland, October 27-30, 2020, Selected Papers

This book reflects the author's years of hands-on experience as an academic and practitioner. It is primarily intended for executives, managers and practitioners who want to redefine the way they think about artificial intelligence (AI) and other exponential technologies. Accordingly the book, which is structured as a collection of largely self-contained articles, includes both general strategic reflections and detailed sector-specific information. More concretely, it shares insights into what it means to work with AI and how to do it more efficiently; what it means to hire a data scientist and what new roles there are in the field; how to use AI in specific industries such as finance or insurance; how AI interacts with other technologies such as blockchain; and, in closing, a review of the use of AI in venture capital, as well as a snapshot of acceleration programs for AI companies.

The Workgroup Human-Computer Interaction & Usability Engineering (HCI&UE) of the Austrian Computer Society (OCG) serves as a platform for interdisciplinary - change, research and development. While human-computer interaction (HCI) traditionally brings together psychologists and computer scientists, usability engineering (UE) is a software engineering discipline and ensures the appropriate implementation of applications. Our 2008 topic was Human-Computer Interaction for Education and Work (HCI4EDU), culminating in the 4th annual Usability Symposium USAB 2008 held during November 20-21, 2008 in Graz, Austria (<http://usab->

symposium.tugraz.at). As with the field of Human–Computer Interaction in Medicine and Health Care (HCI4MED), which was our annual topic in 2007, technological performance also increases exponentially in the area of education and work. Learners, teachers and knowledge workers are ubiquitously confronted with new technologies, which are available at constantly lower costs. However, it is obvious that within our e-Society the knowledge acquired at schools and universities – while being an absolutely necessary basis for learning – may prove insufficient to last a whole life time. Working and learning can be viewed as parallel processes, with the result that li- long learning (LLL) must be considered as more than just a catch phrase within our society, it is an undisputed necessity. Today, we are facing a tremendous increase in educational technologies of all kinds and, although the influence of these new te- nologies is enormous, we must never forget that learning is both a basic cognitive and a social process – and cannot be replaced by technology.

A MEMOIR BY THE YOUNGEST RECIPIENT OF THE NOBEL PEACE PRIZE As seen on Netflix with David Letterman "I come from a country that was created at midnight. When I almost died it was just after midday." When the Taliban took control of the Swat Valley in Pakistan, one girl spoke out. Malala Yousafzai refused to be silenced and fought for her right to an education. On Tuesday, October 9, 2012, when she was fifteen, she almost paid the ultimate price. She was shot in the head at point-blank range while riding the bus home from school, and few expected her to survive. Instead, Malala's miraculous recovery has taken her on an extraordinary journey from a remote valley in northern Pakistan to the halls of the United Nations in New York. At sixteen, she became a global symbol of peaceful protest and the youngest nominee ever for the Nobel Peace Prize. I AM MALALA is the remarkable tale of a family uprooted by global terrorism, of the fight for girls' education, of a father who, himself a school owner, championed and encouraged his daughter to write and attend school, and of brave parents who have a fierce love for their daughter in a society that prizes sons. I AM MALALA will make you believe in the power of one person's voice to inspire change in the world.

Computer vision is a field of artificial intelligence that trains computers to interpret and understand the visual world. In recent years, computer vision has begun to rival and even surpass human visual abilities in many areas. SAS offers many different solutions to train computers to "see" by identifying and classifying objects, and several groundbreaking papers have been written to demonstrate these techniques. The papers included in this special collection demonstrate how the latest computer vision tools and techniques can be used to solve a variety of business problems.

Risk Classification, Credibility and Bonus-Malus Systems

Semiannual cumulation

Proceedings of the Eleventh International Conference on Bridge Maintenance, Safety and Management (IABMAS 2022), Barcelona, Spain, July 11-15, 2022

A Textbook for Students and Practitioners

Current Index to Journals in Education

Computer Vision with SAS

Logistics 4.0

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.

Cryptography is now ubiquitous – moving beyond the traditional environments, such as government communications and banking systems, we see cryptographic techniques realized in Web browsers, e-mail programs, cell phones, manufacturing systems, embedded software, smart buildings, cars, and even medical implants. Today's designers need a comprehensive understanding of applied cryptography. After an introduction to cryptography and data security, the authors explain the main techniques in modern cryptography, with chapters addressing stream ciphers, the Data Encryption Standard (DES) and 3DES, the Advanced Encryption Standard (AES), block ciphers, the RSA cryptosystem, public-key cryptosystems based on the discrete logarithm problem, elliptic-curve cryptography (ECC), digital signatures, hash functions, Message Authentication Codes (MACs), and methods for key establishment, including certificates and public-key infrastructure (PKI). Throughout the book, the authors focus on communicating the essentials and keeping the mathematics to a minimum, and they move quickly from explaining the foundations to describing practical implementations, including recent topics such as lightweight ciphers for RFIDs and mobile devices, and current key-length recommendations. The authors have considerable experience teaching applied cryptography to engineering and computer science students and to professionals, and they make extensive use of examples, problems, and chapter reviews, while the book's website offers slides, projects and links to further resources. This is a suitable textbook for graduate and advanced undergraduate courses and also for self-study by engineers.

Vehicle routing problems, among the most studied in combinatorial optimization, arise in many practical contexts (freight distribution and collection, transportation, garbage collection, newspaper delivery, etc.). Operations researchers have made significant developments in the

algorithms for their solution, and ÷ Vehicle Routing: Problems, Methods, and Applications, Second Edition ÷ reflects these advances. The text of the new edition is either completely new or significantly revised and provides extensive and complete state-of-the-art coverage of vehicle routing by those who have done most of the innovative research in the area; it emphasizes methodology related to specific classes of vehicle routing problems and, since vehicle routing is used as a benchmark for all new solution techniques, contains a complete overview of current solutions to combinatorial optimization problems. It also includes several chapters on important and emerging applications, such as disaster relief and green vehicle routing. ÷

Every year roughly 100,000 fatal and injury crashes occur in the United States involving large trucks and buses. The Federal Motor Carrier Safety Administration (FMCSA) in the U.S. Department of Transportation works to reduce crashes, injuries, and fatalities involving large trucks and buses. FMCSA uses information that is collected on the frequency of approximately 900 different violations of safety regulations discovered during (mainly) roadside inspections to assess motor carriers' compliance with Federal Motor Carrier Safety Regulations, as well as to evaluate their compliance in comparison with their peers. Through use of this information, FMCSA's Safety Measurement System (SMS) identifies carriers to receive its available interventions in order to reduce the risk of crashes across all carriers. Improving Motor Carrier Safety Measurement examines the effectiveness of the use of the percentile ranks produced by SMS for identifying high-risk carriers, and if not, what alternatives might be preferred. In addition, this report evaluates the accuracy and sufficiency of the data used by SMS, to assess whether other approaches to identifying unsafe carriers would identify high-risk carriers more effectively, and to reflect on how members of the public use the SMS and what effect making the SMS information public has had on reducing crashes.

Cautionary Tales in Designed Experiments

Computational Science and Its Applications – ICCSA 2022 Workshops

Practical Statistics for User Research

From Data to Decisions

Autonomous Driving

PROC SQL

Changed Traffic Conditions Ahead

This book contains the contributions presented at the 3rd international KES conference on Smart Education and Smart e-Learning, which took place in Puerto de la Cruz, Tenerife, Spain, June 15-17, 2016. It contains a total of 56 peer-reviewed book chapters that are grouped into several parts: Part 1 - Smart University: Conceptual Modeling, Part 2 - Smart Education: Research and Case Studies, Part 3 - Smart e-Learning, Part 4 - Smart Education: Software and Hardware Systems, and Part 5 - Smart Technology as a Resource to Improve Education and Professional Training. We believe that the book will serve as a useful source of research data and valuable information for faculty, scholars, Ph.D. students, administrators, and practitioners - those who are interested in innovative areas of smart education

and smart e-learning.

SAS Programming for R Users, based on the free SAS Education course of the same name, is designed for experienced R users who want to transfer their programming skills to SAS. Emphasis is on programming and not statistical theory or interpretation. You will learn how to write programs in SAS that replicate familiar functions and capabilities in R. This book covers a wide range of topics including the basics of the SAS programming language, how to import data, how to create new variables, random number generation, linear modeling, Interactive Matrix Language (IML), and many other SAS procedures. This book also explains how to write R code directly in the SAS code editor for seamless integration between the two tools. Exercises are provided at the end of each chapter so that you can test your knowledge and practice your programming skills.

This book reports on the latest advances on the theories, practices, standards and strategies that are related to the modern technology paradigms, the Mobile Cloud computing (MCC) and Big Data, as the pillars and their association with the emerging 5G mobile networks. The book includes 15 rigorously refereed chapters written by leading international researchers, providing the readers with technical and scientific information about various aspects of Big Data and Mobile Cloud Computing, from basic concepts to advanced findings, reporting the state-of-the-art on Big Data management. It demonstrates and discusses methods and practices to improve multi-source Big Data manipulation techniques, as well as the integration of resources availability through the 3As (Anywhere, Anything, Anytime) paradigm, using the 5G access technologies.

This book takes a look at fully automated, autonomous vehicles and discusses many open questions: How can autonomous vehicles be integrated into the current transportation system with diverse users and human drivers? Where do automated vehicles fall under current legal frameworks? What risks are associated with automation and how will society respond to these risks? How will the marketplace react to automated vehicles and what changes may be necessary for companies? Experts from Germany and the United States define key societal, engineering, and mobility issues related to the automation of vehicles. They discuss the decisions programmers of automated vehicles must make to enable vehicles to perceive their environment, interact with other road users, and choose actions that may have ethical consequences. The authors further identify expectations and concerns that will form the basis for individual and societal acceptance of autonomous driving. While the safety benefits of such vehicles are tremendous, the authors demonstrate that these benefits will only be achieved if vehicles have an appropriate safety concept at the heart of their design. Realizing the potential of automated vehicles to reorganize traffic and transform mobility of people and goods requires similar care in the design of vehicles and networks. By covering all of these topics, the

book aims to provide a current, comprehensive, and scientifically sound treatment of the emerging field of "autonomous driving".

Who's Who in Science and Engineering 2008-2009

Technical, Legal and Social Aspects

SAS Programming for R Users

Machine Learning in Insurance

Reinventing the Automobile

Beyond the Basics Using SAS, Third Edition

Activities of Transport Telematics

How to leave behind our unwieldy, gas-guzzling, carbon dioxide – emitting vehicles for cars that are green, smart, connected, and fun. This book provides a long-overdue vision for a new automobile era. The cars we drive today follow the same underlying design principles as the Model Ts of a hundred years ago and the tail-finned sedans of fifty years ago. In the twenty-first century, cars are still made for twentieth-century purposes. They are inefficient for providing personal mobility within cities—where most of the world's people now live. In this pathbreaking book, William Mitchell and two industry experts reimagine the automobile, describing vehicles of the near future that are green, smart, connected, and fun to drive. They roll out four big ideas that will make this both feasible and timely. The fundamental reinvention of the automobile won't be easy, but it is an urgent necessity—to make urban mobility more convenient and sustainable, to make cities more livable, and to help bring the automobile industry out of crisis.

This conference proceedings focuses on enabling science and mathematics practitioners and citizens to respond to the pressing challenges of global competitiveness and sustainable development by transforming research and teaching of science and mathematics. The proceedings consist of 82 papers presented at the Science and Mathematics International Conference (SMIC) 2018, organised by the Faculty of Mathematics and Natural Sciences, Universitas Negeri Jakarta, Indonesia. The proceedings are organised in four parts: Science, Science Education, Mathematics, and Mathematics Education. The papers contribute to our understanding of important contemporary issues in science, especially nanotechnology, materials and environmental science; science education, in particular, environmental sustainability, STEM and STEAM education, 21st century skills, technology education, and green chemistry; and mathematics and its application in statistics, computer science, and mathematics education.

The eight-volume set LNCS 13375 – 13382 constitutes the proceedings of the 22nd International Conference on Computational Science and Its Applications, ICCSA 2022, which was held in Malaga, Spain during July 4 – 7, 2022. The first two volumes contain the proceedings from ICCSA 2022, which are the 57 full and 24 short papers presented in these books were carefully reviewed and selected from 279 submissions. The other six volumes present the workshop proceedings, containing 285 papers out of 815 submissions. These six volumes includes the proceedings of the following workshops: Advances in Artificial Intelligence Learning Technologies: Blended Learning, STEM, Computational Thinking and Coding (AAILT 2022); Workshop on Advancements in Applied Machine-learning and Data Analytics (AAMDA 2022); Advances in information Systems and Technologies for Emergency management, risk assessment and mitigation based on the Resilience (ASTER

2022); Advances in Web Based Learning (AWBL 2022); Blockchain and Distributed Ledgers: Technologies and Applications (BDLTA 2022); Bio and Neuro inspired Computing and Applications (BIONCA 2022); Configurational Analysis For Cities (CA Cities 2022); Computational and Applied Mathematics (CAM 2022), Computational and Applied Statistics (CAS 2022); Computational Mathematics, Statistics and Information Management (CMSIM); Computational Optimization and Applications (COA 2022); Computational Astrochemistry (CompAstro 2022); Computational methods for porous geomaterials (CompPor 2022); Computational Approaches for Smart, Conscious Cities (CASCC 2022); Cities, Technologies and Planning (CTP 2022); Digital Sustainability and Circular Economy (DiSCE 2022); Econometrics and Multidimensional Evaluation in Urban Environment (EMEUE 2022); Ethical AI applications for a human-centered cyber society (EthicAI 2022); Future Computing System Technologies and Applications (FiSTA 2022); Geographical Computing and Remote Sensing for Archaeology (GCRSArcheo 2022); Geodesign in Decision Making: meta planning and collaborative design for sustainable and inclusive development (GDM 2022); Geomatics in Agriculture and Forestry: new advances and perspectives (GeoForAgr 2022); Geographical Analysis, Urban Modeling, Spatial Statistics (Geog-An-Mod 2022); Geomatics for Resource Monitoring and Management (GRMM 2022); International Workshop on Information and Knowledge in the Internet of Things (IKIT 2022); 13th International Symposium on Software Quality (ISSQ 2022); Land Use monitoring for Sustainability (LUMS 2022); Machine Learning for Space and Earth Observation Data (MALSEOD 2022); Building multi-dimensional models for assessing complex environmental systems (MES 2022); MOdels and indicators for assessing and measuring the urban settlement deVEloPMENT in the view of ZERO net land take by 2050 (MOVEto0 2022); Modelling Post-Covid cities (MPCC 2022); Ecosystem Services: nature's contribution to people in practice. Assessment frameworks, models, mapping, and implications (NC2P 2022); New Mobility Choices For Sustainable and Alternative Scenarios (NEMOB 2022); 2nd Workshop on Privacy in the Cloud/Edge/IoT World (PCEIoT 2022); Psycho-Social Analysis of Sustainable Mobility in The Pre- and Post-Pandemic Phase (PSYCHE 2022); Processes, methods and tools towards RESilient cities and cultural heritage prone to SOD and ROD disasters (RES 2022); Scientific Computing Infrastructure (SCI 2022); Socio-Economic and Environmental Models for Land Use Management (SEMLUM 2022); 14th International Symposium on Software Engineering Processes and Applications (SEPA 2022); Ports of the future - smartness and sustainability (SmartPorts 2022); Smart Tourism (SmartTourism 2022); Sustainability Performance Assessment: models, approaches and applications toward interdisciplinary and integrated solutions (SPA 2022); Specifics of smart cities development in Europe (SPEED 2022); Smart and Sustainable Island Communities (SSIC 2022); Theoretical and Computational Chemistry and its Applications (TCCMA 2022); Transport Infrastructures for Smart Cities (TISC 2022); 14th International Workshop on Tools and Techniques in Software Development Process (TTSDP 2022); International Workshop on Urban Form Studies (UForm 2022); Urban Regeneration: Innovative Tools and Evaluation Model (URITEM 2022); International Workshop on Urban Space and Mobilities (USAM 2022); Virtual and Augmented Reality and Applications (VRA 2022); Advanced and Computational Methods for Earth Science Applications (WACM4ES 2022); Advanced Mathematics and Computing Methods in Complex Computational Systems (WAMCM 2022).

The beauty of DOE is about learning--from mistakes, from trying new things, and from working with others. Cautionary Tales in Designed Experiments aims to explain statistical design of experiments (DOE), Ronald Fisher's great innovation, to readers with minimal mathematical knowledge and skills. The book starts with historical examples and goes on to cover missteps, mismanaged experiments, learnings, the importance of randomization, and more. In later chapters, the book covers more statistical concepts, such as various designs for experiments, analysis of variance, Bayes' theorem in DOE, measurement, and when experiments fail. The book concludes by citing the

ubiquity of statistical design of experiments.

Advances in transport systems telematics

4th Symposium of the Workgroup Human-Computer Interaction and Usability Engineering of the Austrian Computer Society, USAB 2008, Graz, Austria, November 20-21, 2008, Proceedings

Understanding Bitcoin

Global Networks, Linked Cities

TEXT ANALYTICS WITH SAS

SAS and Open-Source Model Management

Improving Motor Carrier Safety Measurement

Machine learning is a relatively new field, without a unanimous definition. In many ways, actuaries have been machine learners. In both pricing and reserving, but also more recently in capital modelling, actuaries have combined statistical methodology with a deep understanding of the problem at hand and how any solution may affect the company and its customers. One aspect that has, perhaps, not been so well developed among actuaries is validation. Discussions among actuaries' "preferred methods" were often without solid scientific arguments, including validation of the case at hand.

Through this collection, we aim to promote a good practice of machine learning in insurance, considering the following three key issues: a) who is the client, or sponsor, or otherwise interested real-life target of the study? b) The reason for working with a particular data set and a clarification of the available extra knowledge, that we also call prior knowledge, besides the data set alone. c) A mathematical statistical argument for the validation procedure.

This open access book constitutes the refereed proceedings of the 17th International Conference on String Processing and Information Retrieval, ICOST 2019, held in New York City, NY, USA, in October 2019. The 15 full papers and 5 short papers presented in this volume were carefully reviewed and selected from 24 submissions. They cover topics such as: e-health technology design; well-being technology; biomedical and health informatics; and smart environment technology.

Discover Bitcoin, the cryptocurrency that has the finance worldbuzzing Bitcoin is arguably one of the biggest developments in financesince the advent of fiat currency. With UnderstandingBitcoin, expert author Pedro Franco provides financeprofessionals with a complete technical guide and resource to thecryptography, engineering and economic development of Bitcoin andother cryptocurrencies. This comprehensive, yet accessible workfully explores the supporting economic realities and technologicaladvances of Bitcoin, and presents positive and negative argumentsfrom various economic schools regarding its continuedviability. This authoritative text provides a step-by-step description ofhow Bitcoin works, starting with public key cryptography and movingon to explain transaction processing, the blockchain and miningtechnologies. This vital resource reviews Bitcoin from the broaderperspective of digital currencies

and explores historical attempts at cryptographic currencies. Bitcoin is, after all, not just a digital currency; it's a modern approach to the secure transfer of value using cryptography. This book is a detailed guide to what it is, how it works, and how it just may jumpstart a change in the way digital value changes hands. Understand how Bitcoin works, and the technology behind it. Delve into the economics of Bitcoin, and its impact on the financial industry. Discover alt-coins and other available cryptocurrencies. Explore the ideas behind Bitcoin 2.0 technologies. Learn transaction protocols, micropayment channels, atomic cross-chain trading, and more. Bitcoin challenges the basic assumption under which the current financial system rests: that currencies are issued by central governments, and their supply is managed by central banks. To fully understand this revolutionary technology, *Understanding Bitcoin* is a uniquely complete, reader-friendly guide.

Natural Language Processing (NLP) is a branch of artificial intelligence that helps computers understand, interpret, and emulate written or spoken human language. NLP draws from many disciplines including human-generated linguistic rules, machine learning, and deep learning to fill the gap between human communication and machine understanding. The papers included in this special collection demonstrate how NLP can be used to scale the human act of reading, organizing, and quantifying text data.

Research and Innovation Forum 2020

Digital Transformation of Supply Chain Management

Loss Models

Advances in Mobile Cloud Computing and Big Data in the 5G Era

Insurance Distribution Directive

Natural Language Processing with SAS

Disruptive Technologies in Times of Change

This book was established after the 6th International Workshop on Numerical and Evolutionary Optimization (NEO), representing a collection of papers on the intersection of the two research areas covered at this workshop: numerical optimization and evolutionary search techniques. While focusing on the design of fast and reliable methods lying across these two paradigms, the resulting techniques are strongly applicable to a broad class of real-world problems, such as pattern recognition, routing, energy, lines of production, prediction, and modeling, among others. This volume is intended to serve as a useful reference for mathematicians, engineers, and computer scientists to explore current issues and solutions emerging from these mathematical and computational methods and their applications.

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

Empowering Science and Mathematics for Global Competitiveness Proceedings of the Science and Mathematics International Conference (SMIC 2018), November 2-4, 2018, Jakarta, Indonesia CRC Press

This book constitutes the proceedings of the 13th International Conference on Transport Systems Telematics, TST 2013, held in Katowice-Ustron, Poland, in October 2013. The 58 papers included in this volume were carefully reviewed and selected for inclusion in this book. They provide an overview of solutions being developed in the field of intelligent transportation systems, and include theoretical and case studies in the countries of conference participants.

Numerical and Evolutionary Optimization 2018

13th International Conference on Transport Systems Telematics, TST 2013, Katowice-Ustron, Poland, October 23--26, 2013. Proceedings

Understanding Cryptography

Personal Urban Mobility for the 21st Century

Bridge Safety, Maintenance, Management, Life-Cycle, Resilience and Sustainability

Research and the Future of Telematics

Intelligent Transportation Related Complex Systems and Sensors

With new technologies, such as computer vision, internet of things, mobile computing, e-governance and e-commerce, and wide applications of social media, organizations generate a huge volume of data and at a much faster rate than several years ago. Big data in large-/small-scale systems, characterized by high volume, diversity, and velocity, increasingly drives decision making and is changing the landscape of business intelligence. From governments to private organizations, from communities to individuals, all areas are being affected by this shift. There is a high demand for big data analytics that offer insights for computing efficiency, knowledge discovery, problem solving, and event prediction. To handle this demand and this increase in big data, there needs to be research on innovative and optimized machine learning algorithms in both large- and small-scale systems.

Applications of Big Data in Large- and Small-Scale Systems includes state-of-the-art research findings on the latest development, up-to-date issues, and challenges in the field of big data and presents the latest innovative and intelligent applications related to big data. This book encompasses big data in various multidisciplinary fields from the medical field to agriculture, business research, and smart cities. While highlighting topics including machine learning, cloud computing, data visualization, and more, this book is a valuable reference tool for computer scientists, data scientists and analysts, engineers, practitioners, stakeholders, researchers, academicians, and students interested in the versatile and innovative use of big data in both large-scale and small-scale systems. SAS software provides many different techniques to monitor in real time and investigate your data, and several groundbreaking papers have been written to demonstrate how to use these techniques. Topics covered illustrate

the power of SAS solutions that are available as tools for fraud analytics, highlighting a variety of domains, including money laundering, financial crime, and terrorism. Also available free as a PDF from: sas.com/books. Bridge Safety, Maintenance, Management, Life-Cycle, Resilience and Sustainability contains lectures and papers presented at the Eleventh International Conference on Bridge Maintenance, Safety and Management (IABMAS 2022, Barcelona, Spain, 11–15 July, 2022). This e-book contains the full papers of 322 contributions presented at IABMAS 2022, including the T.Y. Lin Lecture, 4 Keynote Lectures, and 317 technical papers from 36 countries all around the world. The contributions deal with the state-of-the-art as well as emerging concepts and innovative applications related to the main aspects of safety, maintenance, management, life-cycle, resilience, sustainability and technological innovations of bridges. Major topics include: advanced bridge design, construction and maintenance approaches, safety, reliability and risk evaluation, life-cycle management, life-cycle, resilience, sustainability, standardization, analytical models, bridge management systems, service life prediction, structural health monitoring, non-destructive testing and field testing, robustness and redundancy, durability enhancement, repair and rehabilitation, fatigue and corrosion, extreme loads, needs of bridge owners, whole life costing and investment for the future, financial planning and application of information and computer technology, big data analysis and artificial intelligence for bridges, among others. This volume provides both an up-to-date overview of the field of bridge engineering and significant contributions to the process of making more rational decisions on bridge safety, maintenance, management, life-cycle, resilience and sustainability of bridges for the purpose of enhancing the welfare of society. The volume serves as a valuable reference to all concerned with and/or involved in bridge structure and infrastructure systems, including students, researchers and practitioners from all areas of bridge engineering.

PROC SQL: Beyond the Basics Using SAS®, Third Edition, is a step-by-step, example-driven guide that helps readers master the language of PROC SQL. Packed with analysis and examples illustrating an assortment of PROC SQL options, statements, and clauses, this book not only covers all the basics, but it also offers extensive guidance on complex topics such as set operators and correlated subqueries. Programmers at all levels will appreciate Kirk Lafler's easy-to-follow examples, clear explanations, and handy tips to extend their knowledge of PROC SQL. This third edition explores new and powerful features in SAS® 9.4, including topics such as: IFC and IFN functions nearest neighbor processing the HAVING clause indexes It also features two completely new chapters on fuzzy matching and data-driven programming. Delving into the workings of PROC SQL with greater analysis and discussion, PROC SQL: Beyond the Basics Using SAS®, Third Edition, explores this powerful database language using discussion and numerous real-world examples.

HCI and Usability for Education and Work

Special Collection

Malaga, Spain, July 4-7, 2022, Proceedings, Part II

Actuarial Modelling of Claim Counts

Proceedings of the Science and Mathematics International Conference (SMIC 2018), November 2-4, 2018, Jakarta, Indonesia

Cryptography, Engineering and Economics

Vehicle Routing

Quantifying the User Experience: Practical Statistics for User Research offers a practical guide for using statistics to solve quantitative problems in user research. Many designers and researchers view usability and design as qualitative activities, which do not require attention to formulas and numbers. However, usability practitioners and user researchers are increasingly expected to quantify the benefits of their efforts. The impact of good and bad designs can be quantified in terms of conversions, completion rates, completion times, perceived satisfaction, recommendations, and sales. The book discusses ways to quantify user research; summarize data and compute margins of error; determine appropriate sample sizes; standardize usability questionnaires; and settle controversies in measurement and statistics. Each chapter concludes with a list of key points and references. Most chapters also include a set of problems and answers that enable readers to test their understanding of the material. This book is a valuable resource for those engaged in measuring the behavior and attitudes of people during their interaction with interfaces. Provides practical guidance on solving usability testing problems with statistics for any project, including those using Six Sigma practices Show practitioners which test to use, why they work, best practices in application, along with easy-to-use excel formulas and web-calculators for analyzing data Recommends ways for practitioners to communicate results to stakeholders in plain English Resources and tools available at the authors' site: <http://www.measuringu.com/>

Building around innovative services related to different modes of transport and traffic management, intelligent transport systems (ITS) are being widely adopted worldwide to improve the efficiency and safety of the transportation system. They enable users to be better informed and make safer, more coordinated, and smarter decisions on the use of transport networks. Current ITSs are complex systems, made up of several components/sub-systems characterized by time-dependent interactions among themselves. Some examples of these transportation-related complex systems include: road traffic sensors, autonomous/automated cars, smart cities, smart sensors, virtual sensors, traffic control systems, smart roads, logistics systems, smart mobility systems, and many others that are emerging from niche areas. The efficient operation of these complex systems requires: i) efficient solutions to the issues of sensors/actuators used to capture and control the physical parameters of these systems, as well as the quality of data collected from these systems; ii) tackling complexities using simulations and analytical modelling techniques; and iii) applying optimization

techniques to improve the performance of these systems.

This open access volume of the AIDA Europe Research Series on Insurance Law and Regulation offers the first comprehensive legal and regulatory analysis of the Insurance Distribution Directive (IDD). The IDD came into force on 1 October 2018 and regulates the distribution of insurance products in the EU. The book examines the main changes accompanying the IDD and analyses its impact on insurance distributors, i.e., insurance intermediaries and insurance undertakings, as well as the market. Drawing on interrelations between the rules of the Directive and other fields that are relevant to the distribution of insurance products, it explores various topics related to the interpretation of the IDD - e.g. the harmonization achieved under it; its role as a benchmark for national legislators; and its interplay with other regulations and sciences - while also providing an empirical analysis of the standardised pre-contractual information document. Accordingly, the book offers a wealth of valuable insights for academics, regulators, practitioners and students who are interested in issues concerning insurance distribution.--

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