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Prediction and Inference from Social Networks and Social Media Springer This book addresses the challenges of social network and social media analysis in terms of prediction and inference. The chapters collected here tackle these issues by proposing new analysis methods and by examining mining methods for the vast amount of social content produced. Social Networks (SNs) have become an integral part of our lives; they are used for leisure, business, government, medical, educational purposes and have attracted billions of users. The challenges that stem from this wide adoption of SNs are vast. These include generating realistic social network topologies, awareness of user activities, topic and trend generation, estimation of user attributes from their social content, and behavior detection. This text has applications to widely used platforms such as Twitter and Facebook and appeals to students, researchers, and professionals in the field. **Advanced Methodologies and Technologies in Business Operations and Management** IGI Global Businesses consistently work on new projects, products, and workflows to remain competitive and successful in the modern business environment. To remain zealous, businesses must employ the most effective methods and tools in human resources, project management, and overall business plan execution as competitors work to succeed as well. Advanced Methodologies and Technologies in Business Operations and Management provides emerging research on business tools such as employee engagement, payout policies, and financial investing to promote operational success. While highlighting the challenges facing modern organizations, readers will learn how corporate social responsibility and utilizing artificial intelligence improve a company's culture and management. This book is an ideal resource for executives and managers, researchers, accountants, and financial investors seeking current research on business operations and management. **Algorithmic Probability and Friends. Bayesian Prediction and Artificial Intelligence Papers from the Ray Solomonoff 85th Memorial Conference, Melbourne, VIC, Australia, November 30 -- December 2, 2011** Springer Algorithmic probability and friends: Proceedings of the Ray Solomonoff 85th memorial conference is a collection of original work and surveys. The Solomonoff 85th memorial conference was held at Monash University's Clayton campus in Melbourne, Australia as a tribute to pioneer, Ray Solomonoff (1926-2009), honouring his various pioneering works - most particularly, his revolutionary insight in the early 1960s that the universality of Universal Turing Machines (UTMs) could be used for universal Bayesian prediction and artificial intelligence (machine learning). This work continues to increasingly influence and under-pin statistics, econometrics, machine learning, data mining, inductive inference, search algorithms, data compression, theories of (general) intelligence and philosophy of science - and applications of these areas. Ray not only envisioned this as the path to genuine artificial intelligence, but also, still in the 1960s, anticipated stages of progress in machine intelligence which would ultimately lead to machines surpassing human intelligence. Ray warned of the need to anticipate and discuss the potential consequences - and dangers - sooner rather than later. Possibly foremostly, Ray Solomonoff was a fine, happy, frugal and adventurous human being of gentle resolve who managed to fund himself while electing to conduct so much of his paradigm-changing research outside of the university system. The volume contains 35 papers pertaining to the abovementioned topics in tribute to Ray Solomonoff and his legacy. **Encyclopedia of Information Science and Technology, Fourth Edition** IGI Global In recent years, our world has experienced a profound shift and progression in available computing and knowledge sharing innovations. These emerging advancements have developed at a rapid pace, disseminating into and affecting numerous aspects of contemporary society. This has created a pivotal need for an innovative compendium encompassing the latest trends, concepts, and issues surrounding this relevant discipline area. During the past 15 years, the Encyclopedia of Information Science and Technology has become recognized as one of the landmark sources of the latest knowledge and discoveries in this discipline. The Encyclopedia of Information Science and Technology, Fourth Edition is a 10-volume set which includes 705 original and previously unpublished research articles covering a full range of perspectives, applications, and techniques contributed by thousands of experts and researchers from around the globe. This authoritative encyclopedia is an all-encompassing, well-established reference source that is ideally designed to disseminate the most forward-thinking and diverse research findings. With critical perspectives on the impact of information science management and new technologies in modern settings, including but not limited to computer science, education, healthcare, government, engineering, business, and natural and physical sciences, it is a pivotal and relevant source of knowledge that will benefit every professional within the field of information science and technology and is an invaluable addition to every academic and corporate library. **Prediction Methods for Blood Glucose Concentration Design, Use and Evaluation** Springer This book tackles the problem of overshoot and undershoot in blood glucose levels caused by delay in the effects of carbohydrate consumption and insulin administration. The ideas presented here will be very important in maintaining the welfare of insulin-dependent diabetics and avoiding the damaging effects of unpredicted swings in blood glucose – accurate prediction enables the implementation of counter-measures. The glucose prediction algorithms described are also a key and critical ingredient of automated insulin delivery systems, the so-called "artificial pancreas". The authors address the topic of blood-glucose prediction from medical, scientific and technological points of view. Simulation studies are utilized for complementary analysis but the primary focus of this book is on real applications, using clinical data from diabetic subjects. The text details the current state of the art by surveying prediction algorithms, and then moves beyond it with the most recent advances in data-based modeling of glucose metabolism. The topic of performance evaluation is discussed and the relationship of clinical and technological needs and goals examined with regard to their implications for medical devices employing prediction algorithms. Practical and theoretical questions associated with such devices and their solutions are highlighted. This book

shows researchers interested in biomedical device technology and control researchers working with predictive algorithms how incorporation of predictive algorithms into the next generation of portable glucose measurement can make treatment of diabetes safer and more efficient. **Predicting Flow-Induced Acoustics at Near-Stall Conditions in an Automotive Turbocharger Compressor A Numerical Approach** Springer This thesis offers new insights into the fluid flow behavior of automotive centrifugal compressors operating under near-stall conditions. Firstly it discusses the validation of three-dimensional computational fluid dynamics (CFD) unsteady simulations against acoustic experimental measurements using an original procedure based on plane wave pressure decomposition. It then examines the configuration of the CFD cases, highlighting the key parameters needed for a successful calculation. Moreover, it describes both the compressor mean and unsteady flow field from best-efficiency to near-surge operating points. Lastly, it provides readers with explanations of the various phenomena that arise when the mass flow rate is reduced and the compressor is driven to poor and noisy performance. Written for students, researchers and professionals who want to improve their understanding of the complex fluid flow behavior in centrifugal compressors, the thesis offers valuable practical insights into reducing the acoustic emissions of turbochargers. **Future City Architecture for Optimal Living** Springer This book offers a wealth of interdisciplinary approaches to urbanization strategies in architecture centered on growing concerns about the future of cities and their impacts on essential elements of architectural optimization, livability, energy consumption and sustainability. It portrays the urban condition in architectural terms, as well as the living condition in human terms, both of which can be optimized by mathematical modeling as well as mathematical calculation and assessment. Special features include: • new research on the construction of future cities and smart cities • discussions of sustainability and new technologies designed to advance ideas to future city developments Graduate students and researchers in architecture, engineering, mathematical modeling, and building physics will be engaged by the contributions written by eminent international experts from a variety of disciplines including architecture, engineering, modeling, optimization, and related fields. **Progress in Hybrid RANS-LES Modelling Papers Contributed to the 6th Symposium on Hybrid RANS-LES Methods, 26-28 September 2016, Strasbourg, France** Springer This book reports on the latest developments in computational fluid dynamics and turbulence modeling, with a special emphasis on hybrid RANS-LES methods and their industrial applications. It gathers the proceedings of the Sixth Symposium on Hybrid RANS-LES Methods, held on September 26-28 in Strasbourg, France. The different chapters covers a wealth of topics such as flow control, aero-acoustics, aero-elasticity and CFD-based multidisciplinary optimization. Further topics include wall-modelled Large Eddy Simulation (WMLES), embedded LES, Lattice-Bolzman methods, turbulence-resolving applications and comparisons between LES, hybrid RANS-LES and URANS methods. The book addresses academic researchers, graduate students, industrial engineers, as well as industrial R&D managers and consultants dealing with turbulence modelling, simulation and measurement, and with multidisciplinary applications of computational fluid dynamics. **CDS 12 Years Topic-wise Solved Papers Mathematics, English & General Knowledge (2007-2018) - 3rd Edition** Disha Publications The thoroughly revised & updated 3rd edition of 'CDS 12 Years Mathematics, English & General Knowledge Topic-wise Solved Papers (2007 Feb - 2018 Feb)' consists of last 12 years (both Feb and November papers) from 2007 Paper 1 – 2018 Paper 1 solved papers of Elementary Mathematics, English and General Knowledge distributed into 42 topics. In all there are 23 Question papers from 2007 to 2018 - I which have been divided into the above discussed 42 topics. Practicing these questions, aspirants will come to know about the pattern and toughness of the questions asked in the examination. All the papers are divided into following sections: Section I – Mathematics which is distributed into 25 topics Section II – English is divided into 8 topics Section III – General Knowledge is divided into 9 topics The book contains 6460+ MILESTONE MCQ's from the above 23 Question papers. The strength of the book lies in the originality of its question papers and Errorless Solutions. The solution of each and every question is provided in detail (step-by-step) so as to provide 100% concept clarity to the students. **Awareness shaping or shaped by prediction and postdiction** Frontiers Media SA We intuitively believe that we are aware of the external world as it is. Unfortunately, this is not entirely true. In fact, the capacity of our sensory system is too small to veridically perceive the world. To overcome this problem, the sensory system has to spatiotemporally integrate neural signals in order to interpret the external world. However, the spatiotemporal integration involves severe neural latencies. How does the sensory system keep up with the ever-changing external world? As later discussed, 'prediction' and 'postdiction' are essential keywords here. For example, the sensory system uses temporally preceding events to predict subsequent events (e.g., Nijhawan, 1994; Kerzel, 2003; Hubbard, 2005) even when the preceding event is subliminally presented (Schmidt, 2000). Moreover, internal prediction modulates the perception of action outcomes (Bays et al., 2005; Cardoso-Leite et al., 2010) and sense of agency (Wenke et al., 2010). Prediction is also an indispensable factor for movement planning and control (Kawato, 1999). On the other hand, the sensory system also makes use of subsequent events to postdictively interpret a preceding event (e.g. Eagleman & Sejnowski, 2000; Enns, 2002; Khuu et al., 2010; Kawabe, 2011, 2012; Miyazaki et al., 2010; Ono & Kitazawa, 2011) and it's much the same even for infancy (Newman et al., 2008). Moreover, it has also been proposed that sense of agency stems not only from predictive processing but also from postdictive inference (Ebert & Wegner, 2011). The existence of postdictive processing is also supported by several neuroscience studies (Kamitani & Shimojo, 1999; Lau et al., 2007). How prediction and postdiction shape awareness of the external world is an intriguing question. Prediction is involved with the encoding of incoming signals, whereas postdiction is related to a re-interpretation of already encoded signals. Given this perspective, prediction and postdiction may exist along a processing stream for a single external event. However, it is unclear whether, and if so how, prediction and postdiction interact with each other to shape awareness of the external world. Awareness of the external world may also shape prediction and/or postdiction. It is plausible that awareness of the external world drives the prediction and postdiction of future and past appearances of the world. However, the literature provides little information about the role of awareness of the external world in prediction and postdiction. This background propelled us to propose this research topic with the aim of offering a space for systematic discussion concerning the relationship between awareness, prediction and postdiction among researchers in broad research areas, such as psychology, psychophysics, neuroscience, cognitive science, philosophy, and so forth. We encouraged papers that address one or more of the following questions: 1) How does prediction shape awareness of the external world? 2) How does postdiction shape awareness of the external world? 3) How do prediction and postdiction interact with each other in shaping awareness of the external world? 4) How does awareness of the external world shape prediction/postdiction? **Predicting the Dynamics of Research Impact** Springer Nature This book provides its readers with an introduction to interesting prediction and science dynamics problems in the field of Science of Science. Prediction focuses on the forecasting of future performance (or impact) of an entity, either a research

article or a scientist, and also the prediction of future links in collaboration networks or identifying missing links in citation networks. The single chapters are written in a way that help the reader gain a detailed technical understanding of the corresponding subjects, the strength and weaknesses of the state-of-the-art approaches for each described problem, and the currently open challenges. While chapter 1 provides a useful contribution in the theoretical foundations of the fields of scientometrics and science of science, chapters 2-4 turn the focal point to the study of factors that affect research impact and its dynamics. Chapters 5-7 then focus on article-level measures that quantify the current and future impact of scientific articles. Next, chapters 8-10 investigate subjects relevant to predicting the future impact of individual researchers. Finally, chapters 11-13 focus on science evolution and dynamics, leveraging heterogeneous and interconnected data, where the analysis of research topic trends and their evolution has always played a key role in impact prediction approaches and quantitative analyses in the field of bibliometrics. Each chapter can be read independently, since it includes a detailed description of the problem being investigated along with a thorough discussion and study of the respective state-of-the-art. Due to the cross-disciplinary character of the Science of Science field, the book may be useful to interested readers from a variety of disciplines like information science, information retrieval, network science, informetrics, scientometrics, and machine learning, to name a few. The profiles of the readers may also be diverse ranging from researchers and professors in the respective fields to students and developers being curious about the covered subjects. **Macro-Level Learning through Massive Open Online Courses (MOOCs): Strategies and Predictions for the Future Strategies and Predictions for the Future** IGI Global To some in academia, Massive Open Online Courses are a paradigm shift in online education, while others perceive them as a threat to traditional styles of pedagogy. In this regard, the time-honored model of the university lecture is seen as being a potential casualty of the rise of MOOCs. Macro-Level Learning through Massive Open Online Courses (MOOCs): Strategies and Predictions for the Future provides insight into the emerging phenomenon of MOOCs as a design manual for the course designer with a collection of chapters that deal with all facets of the MOOC debate. Industry training developers, corporate trainers, educators, post graduate students, and others will benefit from the information provided in this book. **Performance Prediction and Analytics of Fuzzy, Reliability and Queuing Models Theory and Applications** Springer This book presents the latest developments and breakthroughs in fuzzy theory and performance prediction of queuing and reliability models by using the stochastic modeling and optimization theory. The main focus is on analytics that use fuzzy logic, queuing and reliability theory for the performance prediction and optimal design of real-time engineering systems including call centers, telecommunication, manufacturing, service organizations, etc. For the day-to-day as well as industrial queuing situations and reliability prediction of machining parts embedded in computer, communication and manufacturing systems, the book assesses various measures of performance and effectiveness that can provide valuable insights and help arrive at the best decisions with regard to service and engineering systems. In twenty chapters, the book presents both theoretical developments and applications of the fuzzy logic, reliability and queuing models in a diverse range of scenarios. The topics discussed will be of interest to researchers, educators and undergraduate students in the fields of Engineering, Business Management, and the Mathematical Sciences. **ICASI 2019 Proceedings of The 2nd International Conference On Advance And Scientific Innovation, ICASI 2019, 18 July, Banda Aceh, Indonesia** European Alliance for Innovation As an annual event, THE 2ND INTERNATIONAL CONFERENCE ON ADVANCE & SCIENTIFIC INNOVATION 2019 continued the agenda to bring together researcher, academics, experts and professionals in examining about Scientific Innovation in technology, education, management, accounting and many aspect area. In 2019, this event held in 18 July 2019 at Politeknik Kutaraja, Banda Aceh, Indonesia. This ICASI Proceeding 2019 are published along with article from ICASI 2018 and each contributed paper was refereed before being accepted for publication. The double-blind peer reviewed was used in the paper selection. **CDS 14 Years Mathematics, English & General Knowledge Topic-wise Solved Papers (2007 - 2020) - 4th Edition** Disha Publications **Prediction and Causality in Econometrics and Related Topics** Springer Nature This book provides the ultimate goal of economic studies to predict how the economy develops—and what will happen if we implement different policies. To be able to do that, we need to have a good understanding of what causes what in economics. Prediction and causality in economics are the main topics of this book's chapters; they use both more traditional and more innovative techniques—including quantum ideas -- to make predictions about the world economy (international trade, exchange rates), about a country's economy (gross domestic product, stock index, inflation rate), and about individual enterprises, banks, and micro-finance institutions: their future performance (including the risk of bankruptcy), their stock prices, and their liquidity. Several papers study how COVID-19 has influenced the world economy. This book helps practitioners and researchers to learn more about prediction and causality in economics -- and to further develop this important research direction. **Applied Mathematics, Modeling and Computer Simulation Proceedings of AMMCS 2021** IOS Press The pervasiveness of computers in every field of science, industry and everyday life has meant that applied mathematics, particularly in relation to modeling and simulation, has become ever more important in recent years. This book presents the proceedings of the 2021 International Conference on Applied Mathematics, Modeling and Computer Simulation (AMMCS 2021), hosted in Wuhan, China, and held as a virtual event from 13 to 14 November 2021. The aim of the conference is to foster the knowledge and understanding of recent advances across the broad fields of applied mathematics, modeling and computer simulation, and it provides an annual platform for scholars and researchers to communicate important recent developments in their areas of specialization to colleagues and other scientists in related disciplines. This year more than 150 participants were able to exchange knowledge and discuss recent developments via the conference. The book contains 115 peer-reviewed papers, selected from more than 250 submissions and ranging from the theoretical and conceptual to the strongly pragmatic and all addressing industrial best practice. Topics covered include mathematical modeling and applications, engineering applications and scientific computations, and the simulation of intelligent systems. Providing an overview of recent development and with a mix of practical experiences and enlightening ideas, the book will be of interest to researchers and practitioners everywhere. **Advances in Computer Science for Engineering and Education III** Springer Nature This book comprises high-quality refereed research papers presented at the Third International Conference on Computer Science, Engineering and Education Applications (ICCSEEA2020), held in Kyiv, Ukraine, on 21–22 January 2020, organized jointly by National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", National Aviation University, and the International Research Association of Modern Education and Computer Science. The topics discussed in the book include state-of-the-art papers in computer science, artificial intelligence, engineering techniques, genetic coding systems, deep learning with its medical applications, and knowledge representation with its applications in education. It is an excellent source of references for researchers, graduate students, engineers, management

practitioners, and undergraduate students interested in computer science and their applications in engineering and education. **Handbook of Research on Disease Prediction Through Data Analytics and Machine Learning** IGI Global By applying data analytics techniques and machine learning algorithms to predict disease, medical practitioners can more accurately diagnose and treat patients. However, researchers face problems in identifying suitable algorithms for pre-processing, transformations, and the integration of clinical data in a single module, as well as seeking different ways to build and evaluate models. The Handbook of Research on Disease Prediction Through Data Analytics and Machine Learning is a pivotal reference source that explores the application of algorithms to making disease predictions through the identification of symptoms and information retrieval from images such as MRIs, ECGs, EEGs, etc. Highlighting a wide range of topics including clinical decision support systems, biomedical image analysis, and prediction models, this book is ideally designed for clinicians, physicians, programmers, computer engineers, IT specialists, data analysts, hospital administrators, researchers, academicians, and graduate and post-graduate students. **AI Techniques for Reliability Prediction for Electronic Components** IGI Global In the industry of manufacturing and design, one major constraint has been enhancing operating performance using less time. As technology continues to advance, manufacturers are looking for better methods in predicting the condition and residual lifetime of electronic devices in order to save repair costs and their reputation. Intelligent systems are a solution for predicting the reliability of these components; however, there is a lack of research on the advancements of this smart technology within the manufacturing industry. AI Techniques for Reliability Prediction for Electronic Components provides emerging research exploring the theoretical and practical aspects of prediction methods using artificial intelligence and machine learning in the manufacturing field. Featuring coverage on a broad range of topics such as data collection, fault tolerance, and health prognostics, this book is ideally designed for reliability engineers, electronic engineers, researchers, scientists, students, and faculty members seeking current research on the advancement of reliability analysis using AI. **Advances in Transitional Flow Modeling Applications to Helicopter Rotors** Springer This book provides a comprehensive description of numerical methods and validation processes for predicting transitional flows based on the Langtry–Menter local correlation-based transition model, integrated with both one-equation Spalart–Allmaras (S–A) and two-equation Shear Stress Transport (SST) turbulence models. A comparative study is presented to combine the respective merits of the two coupling methods in the context of predicting the boundary-layer transition phenomenon from fundamental benchmark flows to realistic helicopter rotors. The book will of interest to industrial practitioners working in aerodynamic design and the analysis of fixed-wing or rotary wing aircraft, while also offering advanced reading material for graduate students in the research areas of Computational Fluid Dynamics (CFD), turbulence modeling and related fields. **Multivariate Prediction, de Branges Spaces, and Related Extension and Inverse Problems** Birkhäuser This monograph deals primarily with the prediction of vector valued stochastic processes that are either weakly stationary, or have weakly stationary increments, from finite segments of their past. The main focus is on the analytic counterpart of these problems, which amounts to computing projections onto subspaces of a Hilbert space of p x 1 vector valued functions with an inner product that is defined in terms of the p x p matrix valued spectral density of the process. The strategy is to identify these subspaces as vector valued de Branges spaces and then to express projections in terms of the reproducing kernels of these spaces and/or in terms of a generalized Fourier transform that is obtained from the solution of an associated inverse spectral problem. Subsequently, the projection of the past onto the future and the future onto the past is interpreted in terms of the range of appropriately defined Hankel operators and their adjoints, and, in the last chapter, assorted computations are carried out for rational spectral densities. The underlying mathematics needed to tackle this class of problems is developed in careful detail, but, to ease the reading, an attempt is made to avoid excessive generality. En route a number of results that, to the best of our knowledge, were only known for $p = 1$ are generalized to the case $p > 1$. **Hydrometeorology** John Wiley & Sons Hydrometeorology presents an introduction to relevant topics in the interdisciplinary fields of hydrology and meteorology. This book is one of the few books aiming to provide a balance between aspects of meteorological and hydrological processes. The transfer of energy and water between the land surface and lower atmosphere within the hydrological cycle is addressed followed by a description of the nature of precipitation, and how it is formed. Forecasting precipitation is reviewed on all scales, and the range of rainfall-runoff models and coastal surge models and forecasts (including tsunamis) which have been, and are being, used are discussed. The mechanisms of snow, ice (glacier, sea and tundra), evaporation and transpiration, how drought occurs and the representation of wind are described. How rainfall (including radar measurements) and river flow information is gathered and analysed (including, frequency analysis, Probable Maximum Precipitation and Flood) are presented. Satellite measurements of precipitation are discussed. Examples of major past floods and droughts are given. Past and future climate change, which is included, underpins the importance of hydro-meteorological processes. The structure of the general circulation of the atmosphere and how it influences weather and climate including the Hadley, Ferrel and Polar cells, the Trade winds and the El Nino, is outlined. Finally, the influence of urban areas on rainfall formation, dealing with urban drainage and air quality are described. Each chapter ends with one or two specific points as appendices, elements discussed in the chapter and a list of sample problems to aid understanding. Readership: This book is aimed at 3rd year undergraduate and postgraduate students on hydrology/hydrometeorology, environmental science and geography courses. Professionals in environmental protection agencies and consultancies will also find the book of great interest. It contains a balance of both the physics and mathematics which underpin such courses and activities. **Math Instruction for Students with Learning Problems** Taylor & Francis Math Instruction for Students with Learning Problems, Second Edition provides a research-based approach to mathematics instruction designed to build confidence and competence in pre- and in-service PreK–12 teachers. This core textbook addresses teacher and student attitudes toward mathematics, as well as language issues, specific mathematics disabilities, prior experiences, and cognitive and metacognitive factors. The material is rich with opportunities for class activities and field extensions, and the second edition has been fully updated to reference both NCTM and CCSSM standards throughout the text and includes an entirely new chapter on measurement and data analysis. **Emerging Trends in Intelligent Computing and Informatics Data Science, Intelligent Information Systems and Smart Computing** Springer Nature This book presents the proceedings of the 4th International Conference of Reliable Information and Communication Technology 2019 (IRICT 2019), which was held in Pulai Springs Resort, Johor, Malaysia, on September 22–23, 2019. Featuring 109 papers, the book covers hot topics such as artificial intelligence and soft computing, data science and big data analytics, internet of things (IoT), intelligent communication systems, advances in information security, advances in information systems and software engineering. **Associations between Reading and Mathematics: Genetic, Brain Imaging, Cognitive and**

Educational Perspectives Frontiers Media SA Converging evidence demonstrates a strong link between reading and mathematics: multiple cognitive processes are shared between reading and mathematics, including the representation and retrieval of symbolic information, attention, working memory, and cognitive control. Additionally, multiple brain networks are involved in both math and reading, and last, common genetic factors might influence both reading and math. Hence, it comes as no surprise that there are meaningful associations between (aspects of) math and reading abilities. Moreover, comorbidity rates between math learning disabilities (MD) and reading disabilities (RD) are high (up to 66%) and prevalence rate of the comorbid condition is reported to be more common than the prevalence rate of isolated math learning disabilities. Accordingly, the goal of the research topic is to explore the underline mechanisms of this overlap between reading and math. The research topic aims to include the following topics: • Genetics - it has been found that both RD and MD are based on genetic factors and run in families. Moreover, math problem solving shares significant genetic overlap with general cognitive ability and reading decoding, whereas math fluency shares significant genetic overlap with reading fluency and general cognitive ability. Hence, this topic will explore the shared and unique genetic risk factors to RD and MD, In addition to shared and unique genetic influence on reading and math. • Neural perspective - converging evidence from both structural and multiple functional imaging studies, involving a wide range of numerical tasks, points to the intraparietal sulcus (IPS) as a core region that involve in quantity manipulation. However, several additional brain areas, such as frontoparietal and temporoparietal areas were found to be involved in numerical tasks. Individuals with MD show deficits in a distributed, set of brain regions that include the IPS, fusiform gyrus in posterior brain regions and pre frontal cortex regions. Similarly, converging evidence indicate that the left hemisphere regions centered in the fusiform gyrus, temporoparietal cortex, and pre frontal cortex regions are strongly involve in typical reading and present lower activity, connectivity or abnormal structure in RD. Thus, there is a meaningful neural overlap between reading and math. Hence, the authors can submit empirical studies on the role of several of brain regions that are involved in math and reading (commonality and diversity) both in the typical and a-typical development. • Cognitive factors that play role in mathematics and reading, and comorbidity between RD and MD - There is a long lasting debate whether MD and RD originate from unique cognitive mechanisms or not. Multiple cognitive processes are shared between reading and mathematics. Therefore, impairments in any one of domain-general skills could conceivably play an important role in both pure and comorbid conditions. Moreover, it has been suggested that phonological processing has a significant role in some aspects of numerical processing such as retrieval of arithmetical facts. • Education - it will be interesting to look at the effect of interventions that aim to improve reading (such as phonological awareness) and there transfer effect on improving mathematical processing. Alternatively, it will be good to test whether math interventions will improve reading. **Health Informatics: Practical Guide Seventh Edition** Lulu.com Health Informatics: Practical Guide focuses on the application of information technology in healthcare to improve individual and population health, education and research. The goal of the seventh edition is to stimulate and educate healthcare and IT professionals and students about the key topics in this rapidly changing field. Dr. William Hersh from Oregon Health & Science University is the co-editor and author of multiple chapters. Topics include Health Informatics (HI) overview, electronic health records, healthcare data analytics, health information exchange, architecture of information systems, evidence-based medicine, consumer health informatics, HI ethics, quality improvement strategies and more. The 22 chapters feature learning objectives, case studies, recommended reading, future trends, key points, conclusions and over 1800 references. It is available as a paperback and an eBook. Visit the textbook companion website at http: //informaticseducation.org/ for more information. **Advances in Artificial Intelligence Selected Papers from the Annual Conference of Japanese Society of Artificial Intelligence (JSAI 2021).** Springer Nature This book contains extended versions of research papers presented at the international sessions at the 35th Annual Conference of the Japanese Society for Artificial Intelligence (JSAI2021), which was held online from June 8-11, 2021. The JSAI annual conferences are considered key events for our organization, and the international sessions held at these conferences play a key role for the society in its efforts to share Japan's research on artificial intelligence with other countries. The topics of the international sessions in JSAI2021 cover five categories: knowledge engineering, machine learning, agents, robots and real worlds, and human interface and education aid. From the papers submitted to those categories, papers of high quality were selected through the strict reviewing procedure. As a result, 19 papers are included in this book. From this book, readers can get an overview of recent Japan's research on artificial intelligence. **Intelligent Systems Proceedings of ICMIB 2020** Springer Nature This book features best selected research papers presented at the International Conference on Machine Learning, Internet of Things and Big Data (ICMIB 2020) held at Indira Gandhi Institute of Technology, Sarang, India, during September 2020. It comprises high-quality research work by academicians and industrial experts in the field of machine learning, mobile computing, natural language processing, fuzzy computing, green computing, human–computer interaction, information retrieval, intelligent control, data mining and knowledge discovery, evolutionary computing, IoT and applications in smart environments, smart health, smart city, wireless networks, big data, cloud computing, business intelligence, internet security, pattern recognition, predictive analytics applications in healthcare, sensor networks and social sensing and statistical analysis of search techniques. **Mathematical and Statistics Anxiety: Educational, Social, Developmental and Cognitive Perspectives** Frontiers Media SA Mathematical anxiety is a feeling of tension, apprehension or fear which arises when a person is faced with mathematical content. The negative consequences of mathematical anxiety are well-documented. Students with high levels of mathematical anxiety might underperform in important test situations, they tend to hold negative attitudes towards mathematics, and they are likely to opt out of elective mathematics courses, which also affects their career opportunities. Although at the university level many students do not continue to study mathematics, social science students are confronted with the fact that their disciplines involve learning about statistics - another potential source of anxiety for students who are uncomfortable with dealing with numerical content. Research on mathematical anxiety is a truly interdisciplinary field with contributions from educational, developmental, cognitive, social and neuroscience researchers. The current collection of papers demonstrates the diversity of the field, offering both new empirical contributions and reviews of existing studies. The contributors also outline future directions for this line of research. **Mathematics of Planet Earth Mathematicians Reflect on How to Discover, Organize, and Protect Our Planet** SIAM Our planet faces many challenges. In 2013, an international partnership of more than 140 scientific societies, research institutes, and organizations focused its attention on these challenges. This project was called Mathematics of Planet Earth and featured English- and French-language blogs, accessible to nonmathematicians, as part of its outreach activities. This book is based on more than 100 of the 270 English-language blog posts and focuses on four major themes: A Planet to Discover; A Planet Supporting

Life; A Planet Organized by Humans; and A Planet at Risk. Readers will learn about the challenges that confront the Earth today, and how mathematics and mathematicians contribute to a better understanding of some of these challenges. ÷ **Social Computing, Behavioral-Cultural Modeling, and Prediction 8th International Conference, SBP 2015, Washington, DC, USA, March 31-April 3, 2015. Proceedings** Springer This book constitutes the refereed proceedings of the 8th International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, SBP 2015, held in Washington, DC, USA, in March/April 2015. The 24 full papers presented together with 36 poster papers were carefully reviewed and selected from 118 submissions. The goal of the conference was to advance our understanding of human behavior through the development and application of mathematical, computational, statistical, simulation, predictive and other models that provide fundamental insights into factors contributing to human socio-cultural dynamics. The topical areas addressed by the papers are social and behavioral sciences, health sciences, engineering, computer and information science. **Global Flood Hazard Applications in Modeling, Mapping, and Forecasting** John Wiley & Sons Global Flood Hazard Subject Category Winner, PROSE Awards 2019, Earth Science Selected from more than 500 entries, demonstrating exceptional scholarship and making a significant contribution to the field of study. PROSE Award Finalist 2019 Association of American Publishers Award for Professional and Scholarly Excellence Flooding is a costly natural disaster in terms of damage to land, property and infrastructure. This volume describes the latest tools and technologies for modeling, mapping, and predicting large-scale flood risk. It also presents readers with a range of remote sensing data sets successfully used for predicting and mapping floods at different scales. These resources can enable policymakers, public planners, and developers to plan for, and respond to, flooding with greater accuracy and effectiveness. Describes the latest large-scale modeling approaches, including hydrological models, 2-D flood inundation models, and global flood forecasting models Showcases new tools and technologies such as Aqueduct, a new web-based tool used for global assessment and projection of future flood risk under climate change scenarios Features case studies describing best-practice uses of modeling techniques, tools, and technologies Global Flood Hazard is an indispensable resource for researchers, consultants, practitioners, and policy makers dealing with flood risk, flood disaster response, flood management, and flood mitigation. **Politics and Big Data Nowcasting and Forecasting Elections with Social Media** Taylor & Francis The importance of social media as a way to monitor an electoral campaign is well established. Day-by-day, hour-by-hour evaluation of the evolution of online ideas and opinion allows observers and scholars to monitor trends and momentum in public opinion well before traditional polls. However, there are difficulties in recording and analyzing often brief, unverified comments while the unequal age, gender, social and racial representation among social media users can produce inaccurate forecasts of final polls. Reviewing the different techniques employed using social media to nowcast and forecast elections, this book assesses its achievements and limitations while presenting a new technique of "sentiment analysis" to improve upon them. The authors carry out a meta-analysis of the existing literature to show the conditions under which social media-based electoral forecasts prove most accurate while new case studies from France, the United States and Italy demonstrate how much more accurate "sentiment analysis" can prove. **Euro-Par 2013: Parallel Processing 19th International Conference, Aachen, Germany, August 26-30, 2013, Proceedings** Springer This book constitutes the refereed proceedings of the 19th International Conference on Parallel and Distributed Computing, Euro-Par 2013, held in Aachen, Germany, in August 2013. The 70 revised full papers presented were carefully reviewed and selected from 261 submissions. The papers are organized in 16 topical sections: support tools and environments; performance prediction and evaluation; scheduling and load balancing; high-performance architectures and compilers; parallel and distributed data management; grid, cluster and cloud computing; peer-to-peer computing; distributed systems and algorithms; parallel and distributed programming; parallel numerical algorithms; multicore and manycore programming; theory and algorithms for parallel computation; high performance networks and communication; high performance and scientific applications; GPU and accelerator computing; and extreme-scale computing. **Frontiers of Energy and Environmental Engineering** CRC Press Frontiers of Energy and Environmental Engineering brings together 192 peer-reviewed papers presented at the 2012 International Conference on Frontiers of Energy and Environment Engineering, held in Hong Kong, December 11-13, 2012. The aim of the conference was to provide a platform for researchers, engineers and academics as well as industry professionals from all over the world to present their activities in the field of energy and environmental engineering as well as share research results. This proceedings volume promotes the development of the field of energy and environmental engineering, strengthening international academic cooperation and intercommunication, and encouraging the fruitful exchange of research ideas and results. The book provides a broad overview of the latest advances made in the field of energy and environmental engineering. Topics covered include energy efficiency and energy management, energy exploration and exploitation, power generation technologies, water pollution and protection, air pollution and protection and environmental engineering and management among others. This volume will be of interest to a global audience consisting of academic researchers, industry professionals and policy-makers active in the wide field of energy and environmental engineering. **Mathematics for Healthcare** Frontiers Media SA In 1996, and with extraordinary prescience, Panfilov and Holden had highlighted in their seminal book 'Computational Biology of the Heart' that biology was, potentially, the most mathematical of all sciences. Fast-forward 20 years and we have seen an exploition of applications of mathematics in not only biology, but healthcare that has already produced significant breakthroughs not imaginable more than 20 years ago. Great strides have been made in explaining through quantitative methods the underlying mechanisms of human disease, not without considerable ingenuity and effort. Biological mechanisms are bewildering: complex, ever evolving, multi-scale, variable, difficult to fully access and understand. This poses immense challenges to the computational physiology community that, nevertheless, has developed an impressive arsenal of tools and methods in a vertiginous race to combat disease with the tall order of improving human healthcare. Mechanistic models are now contending with the advent of machine learning in healthcare and the hope is that both approaches will be used synergistically since the complexity of human patophysiology and the difficulty of acquiring human datasets will require both, deductive and inductive methods. This Research Topic presents work that is currently at the frontier in computational physiology with a striking range of applications, from diabetes to graft failure and using a multitude of mathematical tools. This collection of articles represents a snapshot in a field that is moving a dizzying speed, bringing understanding of fundamental mechanism and solutions to healthcare problems experienced by healthcare systems all over the world. **Handbook Of Financial Econometrics, Mathematics, Statistics, And Machine Learning (In 4 Volumes)** World Scientific This four-volume handbook covers important concepts and tools used in the fields of financial econometrics, mathematics, statistics, and machine learning. Econometric methods have been applied in asset

pricing, corporate finance, international finance, options and futures, risk management, and in stress testing for financial institutions. This handbook discusses a variety of econometric methods, including single equation multiple regression, simultaneous equation regression, and panel data analysis, among others. It also covers statistical distributions, such as the binomial and log normal distributions, in light of their applications to portfolio theory and asset management in addition to their use in research regarding options and futures contracts.In both theory and methodology, we need to rely upon mathematics, which includes linear algebra, geometry, differential equations, Stochastic differential equation (Ito calculus), optimization, constrained optimization, and others. These forms of mathematics have been used to derive capital market line, security market line (capital asset pricing model), option pricing model, portfolio analysis, and others.In recent times, an increased importance has been given to computer technology in financial research. Different computer languages and programming techniques are important tools for empirical research in finance. Hence, simulation, machine learning, big data, and financial payments are explored in this handbook.Led by Distinguished Professor Cheng Few Lee from Rutgers University, this multi-volume work integrates theoretical, methodological, and practical issues based on his years of academic and industry experience. **International Conference on Education and Management Science (ICEMS2014)** DEStech Publications, Inc 2014 International Conference on Education and Management Science (ICEMS2014) will be held in Beijing, China on August 19–20, 2014. The main purpose of this conference is to provide a common forum for researchers, scientists, and students from all over the world to present their recent findings, ideas, developments and application in the border areas of Education and Management Science. It will also report progress and development of methodologies, technologies, planning and implementation, tools and standards in information systems. Education is an internal topic. It is a process of delivering knowledge in a basic meaning. Humans are hard to define the actual definition of education. But it is the key point for our society to step forward. Management science is the discipline that adapts the scientific approach for problem solving to help managers making informed decisions. The goal of management science is to recommend the course of action that is expected to yield the best outcome with what is available. **Artificial Intelligence Second International Conference, SLAAI-ICAI 2018, Moratuwa, Sri Lanka, December 20, 2018, Revised Selected Papers** Springer This book constitutes the refereed proceedings of the Second International Conference, SLAAI-ICAI 2018, held in Moratuwa, Sri Lanka, in December 2018. The 32 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in the following topical sections: intelligence systems; neural networks; game theory; ontology engineering; natural language processing; agent based system; signal and image processing.