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This book constitutes the joint refereed proceedings of the 19th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems, NEW2AN 2019, and the 12th Conference on Internet of Things and Smart Spaces, ruSMART 2019. The 66 revised full papers presented were carefully reviewed and selected from 192 submissions. The papers of NEW2AN address various aspects of next-generation data networks, with special attention to advanced wireless networking and applications. In particular, they deal with novel and innovative approaches to performance and efficiency analysis of 5G and beyond systems, employed game-theoretical formulations, advanced queuing theory, and stochastic geometry, while also covering the Internet of Things, cyber security, optics, signal processing, as well as business aspects. ruSMART 2019, provides a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas. The 12th conference on the Internet of Things and Smart Spaces, ruSMART 2019, provides a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas.

Sub-specialization within pediatric orthopedics is growing, in part due to the development of free-standing children's hospitals and the desire by patients and their parents to have "experts" care for them. We are at the forefront of a trend in physicians classifying themselves as pediatric upper extremity surgeons. Numerous pediatric hospitals now have or are recruiting physicians to focus their practice in this area. Historically, these issues were treated by general orthopedic surgeons, adult hand surgeons, pediatric orthopedic surgeons, or plastic surgeons. However, none of these professionals treat the entirety of pediatric upper extremity pathology, and no single reference has focused on the treatment of the pediatric upper extremity as a whole. For example, fractures have typically been written about in pediatric textbooks, while tendon and nerve injuries are covered in adult hand textbooks. This textbook is a comprehensive, illustrated reference that discusses all aspects of the pediatric upper extremity, from embryology and functional development to nerve injuries, trauma, tumors, burns, sports injuries and more.

Here, the authors propose a method for the formal development of parallel programs - or multiprograms as they prefer to call them. They accomplish this with a minimum of formal gear, i.e. with the predicate calculus and the well-established theory of Owicki and Gries. They show that the Owicki/Gries theory can be effectively put to work for the formal development of multiprograms, regardless of whether these algorithms are distributed or not.

Due to the complexity, and heterogeneity of the smart grid and the high volume of information to be processed, artificial intelligence techniques and computational intelligence appear to be some of the enabling technologies for its future development and success. The theme of the book is "Making pathway for the grid of future" with the emphasis on trends in Smart Grid, renewable interconnection issues, planning-operation-control and reliability of grid, real time monitoring and protection, market, distributed generation and power distribution issues, power electronics applications, computer-IT and signal processing applications, power apparatus, power engineering education and industry-institute collaboration. The primary objective of the book is to review the current state of the art of the most relevant artificial intelligence techniques applied to the different issues that arise in the smart grid development.

Information technology is revolutionizing healthcare, and the uptake of health information technologies is rising, but scientific research and industrial and governmental support will be needed if these technologies are to be implemented effectively to build capacity at regional, national and global levels. This book, "Improving Usability, Safety and Patient Outcomes with Health Information Technology", presents papers from the Information Technology and Communications in Health conference, ITCH 2019, held in Victoria, Canada from 14 to 17 February 2019. The conference takes a multi-perspective view of what is needed to move technology forward to sustained and widespread use by transitioning research findings and approaches into practice. Topics range from improvements in usability and training and the need for new and improved designs for information systems, user interfaces and interoperable solutions, to governmental policy, mandates, initiatives and the need for regulation. The knowledge and insights gained from the ITCH 2019 conference will surely stimulate fruitful discussions and collaboration to bridge research and practice and improve usability, safety and patient outcomes, and the book will be of interest to all those associated with the development, implementation and delivery of health IT solutions.

Aquaculture pond managers measure water-quality variables and attempt to maintain them within optimal ranges for shrimp and fish, but surprisingly little attention is paid to pond soil condition. Soil-water interactions can strongly impact water quality, and soil factors should be considered in aquaculture pond management. The importance of soils in pond management will be illustrated with an example from pond fertilization and another from aeration. Pond fertilization may not produce phytoplankton blooms in acidic ponds. Total alkalinity is too low to provide adequate carbon dioxide for photosynthesis, and acidic soils adsorb phosphate added in fertilizer before phytoplankton can use it. Agricultural lime stone application can raise total alkalinity and neutralize soil acidity. The amount of limestone necessary to cause these changes in a pond depends on the base unsaturation and exchange acidity of the bottom soil. Two ponds with the same total alkalinity and soil pH may require vastly different quantities of limestone because they differ in exchange acidity. Aeration enhances dissolved oxygen concentrations in pond water and permits greater feed inputs to enhance fish or shrimp production. As feeding rates are raised, organic matter accumulates in pond soils. In ponds with very high feeding rates, aeration may supply enough dissolved oxygen in the water column for fish or shrimp, but it may be impossible to maintain aerobic conditions in the surface layers of pond soil. Toxic metabolites produced by microorganisms in anaerobic soils may enter the pond water and harm fish or shrimp.

Tomorrow's best physicians will be those who continually learn, adjust, and innovate as new information and best practices evolve, reflecting adaptive expertise in response to practice challenges. As the first volume in the American Medical Association's MedEd Innovation Series, The Master Adaptive Learner is an instructor-focused guide covering models for how to train and teach future clinicians who need to develop these adaptive skills and utilize them throughout their careers. Explains and clarifies the concept of a Master Adaptive Learner: a metacognitive approach to learning based on self-regulation that fosters the success and use of adaptive expertise in practice. Contains both theoretical and practical material for instructors and administrators, including guidance on how to implement a Master Adaptive Learner approach in today's institutions. Gives instructors the tools needed to empower students to become efficient and successful adaptive learners. Helps medical faculty and instructors address gaps in physician training and prepare new doctors to practice effectively in 21st century healthcare systems. One of the American Medical Association Change MedEd initiatives and innovations, written and edited by members of the ACE (Accelerating Change

in Medical Education) Consortium – a unique, innovative collaborative that allows for the sharing and dissemination of groundbreaking ideas and projects.

The book describes the science gateway building technology developed in the SCI-BUS European project and its adoption and customization method, by which user communities, such as biologists, chemists, and astrophysicists, can build customized, domain-specific science gateways. Many aspects of the core technology are explained in detail, including its workflow capability, job submission mechanism to various grids and clouds, and its data transfer mechanisms among several distributed infrastructures. The book will be useful for scientific researchers and IT professionals engaged in the development of science gateways.

The book addresses the main issues concerned with the new development of learning processes, innovative pedagogical changes, the effects of new technologies on education, future learning content, which aims to gather the newest concepts, research and best practices on the frontiers of technology enhanced learning from the aspects of learning, pedagogies and technologies in learning in order to draw a picture of technology enhanced learning in the near future. Some issues like “e-learning ... m-learning ... u-learning – innovative approaches,” “the Framework and Method for Understanding the New Generation Students,” “Context-aware Mobile Role Playing Game for Learning,” “Pedagogical issues in content creation and use: IT literacy through Spoken Tutorials,” “Supporting collaborative knowledge construction and discourse in the classroom,” “Digital Systems for Hierarchical Open Access to Education,” “Using Annotated Patient Records to Teach Clinical Reasoning to Undergraduate Students of Medicine,” “Utilizing Cognitive Skills Ontology for Designing Personalized Learning Environments” and “Using Interactive Mobile Technologies to Develop Operating Room Technologies Competency” are discussed in separate chapters. Sentiment analysis and opinion mining is the field of study that analyzes people's opinions, sentiments, evaluations, attitudes, and emotions from written language. It is one of the most active research areas in natural language processing and is also widely studied in data mining, Web mining, and text mining. In fact, this research has spread outside of computer science to the management sciences and social sciences due to its importance to business and society as a whole. The growing importance of sentiment analysis coincides with the growth of social media such as reviews, forum discussions, blogs, micro-blogs, Twitter, and social networks. For the first time in human history, we now have a huge volume of opinionated data recorded in digital form for analysis. Sentiment analysis systems are being applied in almost every business and social domain because opinions are central to almost all human activities and are key influencers of our behaviors. Our beliefs and perceptions of reality, and the choices we make, are largely conditioned on how others see and evaluate the world. For this reason, when we need to make a decision we often seek out the opinions of others. This is true not only for individuals but also for organizations. This book is a comprehensive introductory and survey text. It covers all important topics and the latest developments in the field with over 400 references. It is suitable for students, researchers and practitioners who are interested in social media analysis in general and sentiment analysis in particular. Lecturers can readily use it in class for courses on natural language processing, social media analysis, text mining, and data mining. Lecture slides are also available online. Table of Contents: Preface / Sentiment Analysis: A Fascinating Problem / The Problem of Sentiment Analysis / Document Sentiment Classification / Sentence Subjectivity and Sentiment Classification / Aspect-Based Sentiment Analysis / Sentiment Lexicon Generation / Opinion Summarization / Analysis of Comparative Opinions / Opinion Search and Retrieval / Opinion Spam Detection / Quality of Reviews / Concluding Remarks / Bibliography / Author Biography

This volume gathers the proceedings of the International Conference on Medical and Biological Engineering, which was held from 16 to 18 May 2019 in Banja Luka, Bosnia and Herzegovina. Focusing on the goal to ‘Share the Vision’, it highlights the latest findings, innovative solutions and emerging challenges in the field of Biomedical Engineering. The book covers a wide range of topics, including: biomedical signal processing, medical physics, biomedical imaging and radiation protection, biosensors and bioinstrumentation, bio-micro/nano technologies, biomaterials, biomechanics, robotics and minimally invasive surgery, and cardiovascular, respiratory and endocrine systems engineering. Further topics include bioinformatics and computational biology, clinical engineering and health technology assessment, health informatics, e-health and telemedicine, artificial intelligence and machine learning in healthcare, as well as pharmaceutical and genetic engineering. Given its scope, the book provides academic researchers, clinical researchers and professionals alike with a timely reference guide to measures for improving the quality of life and healthcare.

This book addresses a range of complex issues associated with condition monitoring (CM), fault diagnosis and detection (FDD) in smart buildings, wide area monitoring (WAM), wind energy conversion systems (WECSs), photovoltaic (PV) systems, structures, electrical systems, mechanical systems, smart grids, etc. The book's goal is to develop and combine all advanced nonintrusive CMFD approaches on a common platform. To do so, it explores the main components of various systems used for CMFD purposes. The content is divided into three main parts, the first of which provides a brief introduction, before focusing on the state of the art and major research gaps in the area of CMFD. The second part covers the step-by-step implementation of novel soft computing applications in CMFD for electrical and mechanical systems. In the third and final part, the simulation codes for each chapter are included in an extensive appendix to support newcomers to the field.

The proceedings covers advanced and multi-disciplinary research on design of smart computing and informatics. The theme of the book broadly focuses on various innovation paradigms in system knowledge, intelligence and sustainability that may be applied to provide realistic solution to varied problems in society, environment and industries. The volume publishes quality work pertaining to the scope of the conference which is extended towards deployment of emerging computational and knowledge transfer approaches, optimizing solutions in varied disciplines of science, technology and healthcare.

This book constitutes the refereed proceedings of the Second International Symposium on Benchmarking, Measuring, and Optimization, Bench 2019, held in Denver, CO, USA, in November 2019. The 20 full papers and 11 short papers presented were carefully reviewed and selected from 79 submissions. The papers are organized in topical sections named: Best Paper Session; AI Challenges on Cambircon using AIBenc; AI Challenges on RISC-V using AIBench; AI Challenges on X86 using AIBench; AI Challenges on 3D Face Recognition using AIBench; Benchmark; AI and Edge; Big Data; Datacenter; Performance Analysis; Scientific Computing.

This volume presents the revised and peer reviewed contributions of the "ERP Future 2012" conference held in Salzburg/Austria on November 11th - 12th, 2012?. The conference is a platform for research in ERP systems and closely related topics like business processes, business intelligence, and enterprise information systems in general. To master the challenges of ERP

comprehensively, the ERP Future 2012 Research conference accepted contributions both with a business focus as well as with an IT focus to consider enterprise resource planning from various viewpoints. This combination of business and IT aspects is a unique characteristic of the conference and of this volume that resulted in valuable contributions with high practical impact.

The 2-volume set LNCS 11613 and 11614 constitutes the refereed proceedings of the 6th International Conference on Augmented Reality, Virtual Reality, and Computer Graphics, AVR 2019, held in Santa Maria al Bagno, Italy, in June 2019. The 32 full papers and 35 short papers presented were carefully reviewed and selected from numerous submissions. The papers discuss key issues, approaches, ideas, open problems, innovative applications and trends in virtual and augmented reality, 3D visualization and computer graphics in the areas of medicine, cultural heritage, arts, education, entertainment, military and industrial applications. They are organized in the following topical sections: virtual reality; medicine; augmented reality; cultural heritage; education; and industry.

This volume is part of the Ceramic Engineering and Science Proceeding (CESP) series. This series contains a collection of papers dealing with issues in both traditional ceramics (i.e., glass, whitewares, refractories, and porcelain enamel) and advanced ceramics. Topics covered in the area of advanced ceramic include bioceramics, nanomaterials, composites, solid oxide fuel cells, mechanical properties and structural design, advanced ceramic coatings, ceramic armor, porous ceramics, and more.

This book presents the latest research into the application of information and communication technologies within the travel and tourism sectors. Readers will find insightful contributions on a wide range of topics, including digital marketing, social media and online travel reviews, mobile computing, augmented and virtual reality, gamification, recommender systems, electronic distribution, online education and learning, and the sharing economy. Particular attention is devoted to the actual and potential impact of big data, and the development and implementation of digital strategies, including digital marketing and the digital economy. In addition to the description of research advances and innovative concepts, a number of informative case studies are presented. The contents of the book are based on the 2018 ENTER eTourism conference, held in Jönköping, Sweden. The volume will appeal to all academics and practitioners with an interest in the most recent developments in eTourism.

Materials Processing Fundamentals provides researchers and industry professionals with complete guidance on the synthesis, analysis, design, monitoring, and control of metals, materials, and metallurgical processes and phenomena. Along with the fundamentals, it covers modeling of diverse phenomena in processes involving iron, steel, non-ferrous metals, and composites. It also goes on to examine second phase particles in metals, novel sensors for hostile-environment materials processes, online sampling and analysis techniques, and models for real-time process control and quality monitoring systems.

Artificial neural networks can mimic the biological information-processing mechanism in - a very limited sense. Fuzzy logic provides a basis for representing uncertain and imprecise knowledge and forms a basis for human reasoning. Neural networks display genuine promise in solving problems, but a definitive theoretical basis does not yet exist for their design. Fusion of Neural Networks, Fuzzy Systems and Genetic Algorithms integrates neural net, fuzzy system, and evolutionary computing in system design that enables its readers to handle complexity - offsetting the demerits of one paradigm by the merits of another. This book presents specific projects where fusion techniques have been applied. The chapters start with the design of a new fuzzy-neural controller. Remaining chapters discuss the application of expert systems, neural networks, fuzzy control, and evolutionary computing techniques in modern engineering systems. These specific applications include: direct frequency converters electro-hydraulic systems motor control toaster control speech recognition vehicle routing fault diagnosis Asynchronous Transfer Mode (ATM) communications networks telephones for hard-of-hearing people control of gas turbine aero-engines telecommunications systems design Fusion of Neural Networks, Fuzzy Systems and Genetic Algorithms covers the spectrum of applications - comprehensively demonstrating the advantages of fusion techniques in industrial applications.

This book includes high-quality research papers presented at the Third International Conference on Innovative Computing and Communication (ICICC 2020), which is held at the Shaheed Sukhdev College of Business Studies, University of Delhi, Delhi, India, on 21-23 February, 2020. Introducing the innovative works of scientists, professors, research scholars, students and industrial experts in the field of computing and communication, the book promotes the transformation of fundamental research into institutional and industrialized research and the conversion of applied exploration into real-time applications.

The guide to courseware for computer-assisted instruction and computer-managed instruction in bilingual education, English as a second language, and second language instruction contains entries from the National Clearinghouse for Bilingual Education's database and selected courseware for the related areas of special education, vocational education, and adult basic education. Each entry includes: (1) the name/title of the courseware program; (2) the producer's name, address, and telephone number; (3) computer hardware, memory/equipment requirements, software specifications, and courseware format; (4) the language; (5) the type of program or instructional technique; (6) the content area; (7) the grade or proficiency level; and (8) a brief abstract, with external evaluation if available. The courseware is also indexed alphabetically by title, content area, and language. (MSE)

This practical volume presents an overview for the use of simulation in obstetrics and gynecology. Chapters provide an introduction to simulation for OBGYN, simulation modalities and technologies, minimally invasive surgery, invasive obstetric procedures, simulation for global health, and the future of simulation for obstetrics and gynecology. Written and edited by leaders in the field, Comprehensive Healthcare Simulation: Obstetrics and Gynecology offers a variety of learners, including medical students, residents, practicing pediatricians, and health-related professionals, a comprehensive and easy-to-read guide on the use of simulation. This book is part of the Comprehensive Healthcare

Simulation Series which provides focused volumes on the use of simulation in a single specialty or on a specific simulation topic and emphasizes practical considerations and guidance.

This book constitutes the proceedings of the 12th Mexican Conference on Pattern Recognition, MCPR 2020, which was due to be held in Morelia, Mexico, in June 2020. The conference was held virtually due to the COVID-19 pandemic. The 31 papers presented in this volume were carefully reviewed and selected from 67 submissions. They were organized in the following topical sections: pattern recognition techniques; image processing and analysis; computer vision; industrial and medical applications of pattern recognition; natural language processing and recognition; artificial intelligence techniques and recognition.

This book constitutes the post-conference proceedings of the 5th International Conference on Machine Learning, Optimization, and Data Science, LOD 2019, held in Siena, Italy, in September 2019. The 54 full papers presented were carefully reviewed and selected from 158 submissions. The papers cover topics in the field of machine learning, artificial intelligence, reinforcement learning, computational optimization and data science presenting a substantial array of ideas, technologies, algorithms, methods and applications.

This book constitutes the proceedings of the Third International Conference on Internet of Things (IoT) Technologies for HealthCare, HealthyIoT 2016, held in Västerås, Sweden, October 18-19, 2016. The conference also included the First Workshop on Emerging eHealth through Internet of Things (EHIoT 2016). IoT as a set of existing and emerging technologies, notions and services provides many solutions to delivery of electronic healthcare, patient care, and medical data management. The 31 revised full papers presented along with 9 short papers were carefully reviewed and selected from 43 submissions in total. The papers cover topics such as healthcare support for the elderly, real-time monitoring systems, security, safety and communication, smart homes and smart caring environments, intelligent data processing and predictive algorithms in e-Health, emerging eHealth IoT applications, signal processing and analysis, and smartphones as a healthy thing.

The role of translation in the formation of modern Japanese identities has become one of the most exciting new fields of inquiry in Japanese studies. This book marks the first attempt to establish the contours of this new field, bringing together seminal works of Japanese scholarship and criticism with cutting-edge English-language scholarship. Collectively, the contributors to this book address two critical questions: 1) how does the conception of modern Japan as a culture of translation affect our understanding of Japanese modernity and its relation to the East/West divide? and 2) how does the example of a distinctly East Asian tradition of translation affect our understanding of translation itself? The chapter engage a wide array of disciplines, perspectives, and topics from politics to culture, the written language to visual culture, scientific discourse to children's literature and the Japanese conception of a national literature. Translation in Modern Japan will be of huge interest to a diverse readership in both Japanese studies and translation studies as well as students and scholars of the theory and practice of Japanese literary translation, traditional and modern Japanese history and culture, and Japanese women's studies.

This, the second of two volumes on personalized medicine in lung cancer, touches upon the recent progress in targeted drug development based on genomics; emerging biomarkers and therapeutic targets such as EMT, cancer stem cells, and the tumor microenvironment; current personalized clinical management and radiation therapy for lung cancers; and the promise of epigenetics and next-generation sequencing for the advancements towards personalized therapy of lung cancer patients. With chapters on state-of-the-art therapies and technologies written by leading experts working to develop novel companion diagnosis tools for the personalized treatment of lung cancer patients, this volume brings readers up-to-date by presenting the current knowledge on the efforts to make personalized management of lung cancer patients a reality.

In multicellular organisms the establishment, maintenance, and programmed alterations of cell-type specific gene expression patterns are regulated by epigenetic mechanisms. Thus, epigenetic alterations (DNA methylation, DNA associated Polycomb-Trithorax protein complexes, histone modifications) ensure the unique transcriptional activity and phenotypic diversity of diploid cells that carry identical or nearly identical DNA sequences. Because DNA methyltransferase I (DNMT1) associates with replication foci during S phase and prefers hemimethylated DNA as a substrate, DNMT1 ensures the clonal propagation of cytosine methylation patterns (maintenance methylation). Thus, DNA methylation may provide a memory function by helping progeny cells to "remember" their proper cellular identity. An alternative system of epigenetic memory, the Polycomb and Trithorax groups of protein complexes, that may operate both independently from and in concert with DNA methylation, ensures the heritable regulation of gene expression via modification of histone tails. The complex interplay of epigenetic regulatory mechanisms permits both the dynamic modulation of gene expression and the faithful transmission of gene expression patterns to each progeny cell upon division. These carefully orchestrated processes can go wrong, however, resulting in epigenetic reprogramming of the cells that may manifest in pathological changes, as it was first realized during the studies of epigenetic alterations in malignant tumors. By now it became a well established fact that not only genetic changes, but also the disruption of epigenetic regulation can result in carcinogenesis and tumor progression. Scientists working in other fields soon followed the pioneering work of cancer researchers, and revealed that epigenetic dysregulation forms the basis of a wide spectrum of human diseases.

The Second Edition follows up on the interest generated by the successful first edition with more syndromes, more illustrations, updated references, and new chapters. The purpose of the book remains the same-to provide a quick overview of the definition, anatomy, etiology, clinical symptoms and signs, and treatment of tunnel syndromes. The new edition continues to probe the origins of these painful syndromes and to propose the possible causes that lead to them. The Overview section introduces the significance of tunnel syndromes and offers a new chapter devoted to the neurophysiology and electrodiagnosis of compression syndromes. It includes information on basic electromyography analysis, nerve conduction velocity testing, problems with electromyography interpretation, and the clinical use of electrodiagnostic tests. Part I presents tunnel syndromes of the upper extremities, Part II is devoted to the trunk, and Part III discusses the lower extremities. The final section addresses how particular tunnel syndromes affect athletes. For each syndrome, the etiology, clinical symptoms and signs, and treatment are examined in detail. Orthopedists, neurosurgeons, neurologists, sports medicine specialists, occupational and physical therapists, and medical doctors and students will all find the Second Edition of Tunnel Syndromes to be an essential update for their reference libraries.

This book includes a selection of articles from The 2019 World Conference on Information Systems and Technologies (WorldCIST'19), held from April 16 to 19, at La Toja, Spain. WorldCIST is a global forum for researchers and practitioners to

present and discuss recent results and innovations, current trends, professional experiences and challenges in modern information systems and technologies research, together with their technological development and applications. The book covers a number of topics, including A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human-Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; and N) Technologies for Biomedical Applications.

This book includes selected papers from the International Conference on Data Science and Intelligent Applications (ICDSIA 2020), hosted by Gandhinagar Institute of Technology (GIT), Gujarat, India, on January 24–25, 2020. The proceedings present original and high-quality contributions on theory and practice concerning emerging technologies in the areas of data science and intelligent applications. The conference provides a forum for researchers from academia and industry to present and share their ideas, views and results, while also helping them approach the challenges of technological advancements from different viewpoints. The contributions cover a broad range of topics, including: collective intelligence, intelligent systems, IoT, fuzzy systems, Bayesian networks, ant colony optimization, data privacy and security, data mining, data warehousing, big data analytics, cloud computing, natural language processing, swarm intelligence, speech processing, machine learning and deep learning, and intelligent applications and systems. Helping strengthen the links between academia and industry, the book offers a valuable resource for instructors, students, industry practitioners, engineers, managers, researchers, and scientists alike.

The rapid advance of Internet of Things (IoT) technologies has resulted in the number of IoT-connected devices growing exponentially, with billions of connected devices worldwide. While this development brings with it great opportunities for many fields of science, engineering, business and everyday life, it also presents challenges such as an architectural bottleneck – with a very large number of IoT devices connected to a rather small number of servers in Cloud data centers – and the problem of data deluge. Edge computing aims to alleviate the computational burden of the IoT for the Cloud by pushing some of the computations and logics of processing from the Cloud to the Edge of the Internet. It is becoming commonplace to allocate tasks and applications such as data filtering, classification, semantic enrichment and data aggregation to this layer, but to prevent this new layer from itself becoming another bottleneck for the whole computing stack from IoT to the Cloud, the Edge computing layer needs to be capable of implementing massively parallel and distributed algorithms efficiently. This book, *Advances in Edge Computing: Massive Parallel Processing and Applications*, addresses these challenges in 11 chapters. Subjects covered include: Fog storage software architecture; IoT-based crowdsourcing; the industrial Internet of Things; privacy issues; smart home management in the Cloud and the Fog; and a cloud robotic solution to assist medical applications. Providing an overview of developments in the field, the book will be of interest to all those working with the Internet of Things and Edge computing.

On Higher Education is about the consequences of the student revolt of the 1960's and the decline of faculty influence. This shift from emphasis on academic merit to student consumerism is one of two great reversals of direction in the history of American higher education. This is a book for those curious about our society and its institutions and for all who share a civic concern about the society's future.

This volume provides challenges and Opportunities with updated, in-depth material on the application of Big data to complex systems in order to find solutions for the challenges and problems facing big data sets applications. Much data today is not natively in structured format; for example, tweets and blogs are weakly structured pieces of text, while images and video are structured for storage and display, but not for semantic content and search. Therefore transforming such content into a structured format for later analysis is a major challenge. Data analysis, organization, retrieval, and modeling are other foundational challenges treated in this book. The material of this book will be useful for researchers and practitioners in the field of big data as well as advanced undergraduate and graduate students. Each of the 17 chapters in the book opens with a chapter abstract and key terms list. The chapters are organized along the lines of problem description, related works, and analysis of the results and comparisons are provided whenever feasible.

The Internet of Toys (IoToys) is a developing market within our Internet of Things (IoT) ecosystem. This book examines the rise of internet-connected toys and aims to anticipate the opportunities and risks of IoToys before their widespread diffusion. Contributors to this volume each provide a critical analysis of the design, production, regulation, representation and consumption of internet-connected toys. In order to address the theoretical, methodological and policy questions that arise from the study of these new playthings, and contextualise the diverse opportunities and challenges that IoToys pose to educators, families and children themselves, the chapters engage with notions of mediatization, datafication, robotification, connected and post-digital play. This timely engagement with a key transformation in children's play will appeal to all readers interested in understanding the social uses and consequences of IoToys, and primarily to researchers and students in children and media, early childhood studies, media and communications, sociology, education, social psychology, law and design.

This fully revised edition of *Handbook of Pharmaceutical Granulation Technology* covers the rapid advances in the science of agglomeration, process control, process modelling, scale-up, emerging particle engineering technologies, along with current regulatory changes presented by some of the prominent scientist and subject matter experts around the globe. Learn from more than 50 global subject matter experts who share their years of experience in areas ranging from drug delivery and pharmaceutical technology to advances in nanotechnology. Every pharmaceutical scientist should own a copy of this fourth edition resource. Key Features: Theoretical discussions covering granulation and engineering perspectives. Covers new advances in expert systems, process modelling and bioavailability Chapters on emerging technologies in particle engineering Updated Current research and developments in granulation technologies

This book constitutes the refereed proceedings of the First International Conference on Adaptive Instructional Systems, AIS 2019, held in July 2019 as part of HCI International 2019 in Orlando, FL, USA. HCII 2019 received a total of 5029

submissions, of which 1275 papers and 209 posters were accepted for publication after a careful reviewing process. The 50 papers presented in this volume are organized in topical sections named: Adaptive Instruction Design and Authoring, Interoperability and Standardization in Adaptive Instructional Systems, Instructional Theories in Adaptive Instruction, Learner Assessment and Modelling, AI in Adaptive Instructional Systems, Conversational Tutors.

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