

Machine Learning Applications For Data Center Optimization

THANK YOU UNQUESTIONABLY MUCH FOR DOWNLOADING MACHINE LEARNING APPLICATIONS FOR DATA CENTER OPTIMIZATION. MOST LIKELY YOU HAVE KNOWLEDGE THAT, PEOPLE HAVE SPENT NUMEROUS TIMES FOR THEIR FAVORITE BOOKS BEHIND THIS MACHINE LEARNING APPLICATIONS FOR DATA CENTER OPTIMIZATION, BUT END GOING ON IN HARMFUL DOWNLOADS.

RATHER THAN ENJOYING A GOOD EBOOK IN THE SAME WAY AS A CUP OF COFFEE IN THE AFTERNOON, ON THE OTHER HAND THEY JUGGLED WITH SOME HARMFUL VIRUS INSIDE THEIR COMPUTER. MACHINE LEARNING APPLICATIONS FOR DATA CENTER OPTIMIZATION IS WELCOMING IN OUR DIGITAL LIBRARY AN ONLINE RIGHT OF ENTRY TO IT IS SET AS PUBLIC SO YOU CAN DOWNLOAD IT INSTANTLY. OUR DIGITAL LIBRARY SAVES IN COMBINED COUNTRIES, ALLOWING YOU TO GET THE MOST LESS LATENCY TIMES TO DOWNLOAD ANY OF OUR BOOKS AS SOON AS THIS ONE. MERELY SAID, THE MACHINE LEARNING APPLICATIONS FOR DATA CENTER OPTIMIZATION IS UNIVERSALLY COMPATIBLE BEHIND ANY DEVICES TO READ.

ADVANCED INFORMATION SYSTEMS ENGINEERING - SELMIN NURCAN 2016-05-26

THIS BOOK CONSTITUTES THE PROCEEDINGS OF THE 28TH INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION SYSTEMS ENGINEERING, CAISE 2016, HELD IN LJUBLJANA, SLOVENIA, IN JUNE 2016. THE 35 PAPERS PRESENTED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM 211 SUBMISSIONS. THE PROGRAM INCLUDED THE FOLLOWING PAPER SESSIONS: COLLABORATION, BUSINESS PROCESS MODELING, INNOVATION, GAMIFICATION, MINING AND BUSINESS PROCESS PERFORMANCE, REQUIREMENTS ENGINEERING, PROCESS MINING, CONCEPTUAL MODELING, MINING AND DECISION SUPPORT, CLOUD AND SERVICES, VARIABILITY AND CONFIGURATION, OPEN SOURCE SOFTWARE, AND BUSINESS PROCESS MANAGEMENT.

HARDWARE ACCELERATORS IN DATA CENTERS - CHRISTOFOROS KACHRIS 2018-08-21

THIS BOOK PROVIDES READERS WITH AN OVERVIEW OF THE ARCHITECTURES, PROGRAMMING FRAMEWORKS, AND HARDWARE ACCELERATORS FOR TYPICAL CLOUD COMPUTING APPLICATIONS IN DATA CENTERS. THE AUTHORS PRESENT THE MOST RECENT AND PROMISING SOLUTIONS, USING HARDWARE ACCELERATORS TO PROVIDE HIGH THROUGHPUT, REDUCED LATENCY AND HIGHER ENERGY EFFICIENCY COMPARED TO CURRENT SERVERS BASED ON COMMODITY PROCESSORS. READERS WILL BENEFIT FROM STATE-OF-THE-ART INFORMATION REGARDING APPLICATION REQUIREMENTS IN CONTEMPORARY DATA CENTERS, COMPUTATIONAL COMPLEXITY OF TYPICAL TASKS IN CLOUD COMPUTING, AND A PROGRAMMING FRAMEWORK FOR THE EFFICIENT UTILIZATION OF THE HARDWARE ACCELERATORS.

HIGH PERFORMANCE COMPUTING IN SCIENCE AND ENGINEERING - TOM Kozubek 2021-01-07

THIS BOOK CONSTITUTES THE THOROUGHLY REFEREED POST-CONFERENCE PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON HIGH PERFORMANCE COMPUTING IN SCIENCE AND ENGINEERING, HPCSE 2019, HELD IN KAROLINKA, CZECH REPUBLIC, IN MAY 2019. THE 9 PAPERS PRESENTED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM 13 SUBMISSIONS. THE CONFERENCE PROVIDES AN INTERNATIONAL FORUM FOR EXCHANGING IDEAS AMONG RESEARCHERS INVOLVED IN SCIENTIFIC AND PARALLEL COMPUTING, INCLUDING THEORY AND APPLICATIONS, AS WELL AS APPLIED AND COMPUTATIONAL MATHEMATICS. THE FOCUS OF HPCSE 2019 WAS ON MODELS, ALGORITHMS, AND SOFTWARE TOOLS THAT FACILITATE EFFICIENT AND CONVENIENT UTILIZATION OF MODERN PARALLEL AND DISTRIBUTED COMPUTING ARCHITECTURES, AS WELL AS ON LARGE-SCALE APPLICATIONS.

ENGINEER YOUR SOFTWARE! - SCOTT A. WHITMIRE 2022-06-01

SOFTWARE DEVELOPMENT IS HARD, BUT CREATING GOOD SOFTWARE IS EVEN HARDER, ESPECIALLY IF YOUR MAIN JOB IS SOMETHING OTHER THAN DEVELOPING SOFTWARE. ENGINEER YOUR SOFTWARE! OPENS THE WORLD OF SOFTWARE ENGINEERING, WEAVING ENGINEERING TECHNIQUES AND MEASUREMENT INTO SOFTWARE DEVELOPMENT ACTIVITIES. FOCUSING ON ARCHITECTURE AND DESIGN, ENGINEER YOUR SOFTWARE! CLAIMS THAT NO MATTER HOW YOU WRITE SOFTWARE, DESIGN AND ENGINEERING MATTER AND CAN BE APPLIED AT ANY POINT IN THE PROCESS. ENGINEER YOUR SOFTWARE! PROVIDES ADVICE, PATTERNS, DESIGN CRITERIA, MEASURES, AND TECHNIQUES THAT WILL HELP YOU GET IT RIGHT THE FIRST TIME. ENGINEER YOUR SOFTWARE! ALSO PROVIDES SOLUTIONS TO MANY VEXING ISSUES THAT DEVELOPERS RUN INTO TIME AND TIME AGAIN. DEVELOPED OVER 40 YEARS OF CREATING LARGE SOFTWARE APPLICATIONS, THESE LESSONS ARE SPRINKLED WITH REAL-WORLD EXAMPLES FROM ACTUAL SOFTWARE PROJECTS. ALONG THE WAY, THE AUTHOR DESCRIBES COMMON DESIGN PRINCIPLES AND DESIGN PATTERNS THAT CAN MAKE LIFE A LOT EASIER FOR ANYONE TASKED WITH WRITING ANYTHING FROM A SIMPLE SCRIPT TO THE LARGEST ENTERPRISE-SCALE SYSTEMS.

ZERO TO AI - NICOL VALIGI 2020-05-19

SUMMARY HOW CAN ARTIFICIAL INTELLIGENCE TRANSFORM YOUR BUSINESS? IN ZERO TO AI, YOU'LL EXPLORE A VARIETY OF PRACTICAL AI APPLICATIONS YOU CAN USE TO IMPROVE CUSTOMER EXPERIENCES, OPTIMIZE MARKETING, HELP YOU CUT COSTS, AND MORE. IN THIS ENGAGING GUIDE WRITTEN FOR BUSINESS LEADERS AND TECHNOLOGY PROS ALIKE, AUTHORS AND AI EXPERTS NICOL VALIGI AND GIANLUCA MAURO USE FASCINATING PROJECTS, HANDS-ON ACTIVITIES, AND REAL-WORLD EXPLANATIONS TO MAKE IT CLEAR HOW YOUR BUSINESS CAN BENEFIT FROM AI. PURCHASE OF THE PRINT BOOK INCLUDES A FREE EBOOK IN PDF, KINDLE, AND EPUB FORMATS FROM MANNING PUBLICATIONS. ABOUT THE TECHNOLOGY THERE'S NO DOUBT THAT ARTIFICIAL INTELLIGENCE HAS MADE SOME IMPRESSIVE HEADLINES RECENTLY, FROM BESTING CHESS AND GO GRAND MASTERS TO PRODUCING UNCANNY DEEP FAKES THAT BLUR THE LINES OF REALITY. BUT WHAT CAN AI DO FOR YOU? IF YOU WANT TO UNDERSTAND HOW AI WILL IMPACT YOUR BUSINESS BEFORE YOU INVEST YOUR TIME AND MONEY, THIS BOOK IS FOR YOU. ABOUT THE BOOK ZERO TO AI USES CLEAR EXAMPLES AND JARGON-FREE EXPLANATIONS TO SHOW THE PRACTICAL BENEFITS OF AI. EACH CHAPTER EXPLORES A REAL-WORLD CASE STUDY DEMONSTRATING HOW COMPANIES LIKE GOOGLE AND NETFLIX USE AI TO SHAPE THEIR INDUSTRIES. YOU BEGIN AT THE BEGINNING, WITH A PRIMER ON CORE AI CONCEPTS AND REALISTIC BUSINESS OUTCOMES. TO HELP YOU PREPARE FOR THE TRANSITION, THE BOOK BREAKS DOWN A SUCCESSFUL AI IMPLEMENTATION, INCLUDING ADVICE ON HIRING THE RIGHT TEAM AND MAKING DECISIONS ABOUT RESOURCES, RISKS, AND COSTS. WHAT'S

INSIDE IDENTIFYING WHERE AI CAN HELP YOUR ORGANIZATION DESIGNING AN AI STRATEGY EVALUATING PROJECT SCOPE AND BUSINESS IMPACT USING AI TO BOOST CONVERSION RATES, CURATE CONTENT, AND ANALYZE FEEDBACK UNDERSTANDING HOW MODERN AI WORKS AND WHAT IT CAN/CAN'T DO ABOUT THE READER FOR ANYONE WHO WANTS TO GAIN AN UNDERSTANDING OF PRACTICAL ARTIFICIAL INTELLIGENCE AND LEARN HOW TO DESIGN AND DEVELOP PROJECTS WITH HIGH BUSINESS IMPACT. ABOUT THE AUTHOR GIANLUCA MAURO AND NICOL VALIGI ARE THE COFOUNDERS OF AI ACADEMY, A COMPANY SPECIALIZING IN AI TRAININGS AND CONSULTING. TABLE OF CONTENTS: 1. AN INTRODUCTION TO ARTIFICIAL INTELLIGENCE PART 1 - UNDERSTANDING AI 2. ARTIFICIAL INTELLIGENCE FOR CORE BUSINESS DATA 3. AI FOR SALES AND MARKETING 4. AI FOR MEDIA 5. AI FOR NATURAL LANGUAGE 6. AI FOR CONTENT CURATION AND COMMUNITY BUILDING PART 2 - BUILDING AI 7. READY—FINDING AI OPPORTUNITIES 8. SET—PREPARING DATA, TECHNOLOGY, AND PEOPLE 9. GO—AI IMPLEMENTATION STRATEGY 10. WHAT LIES AHEAD

SUSTAINABLE ADVANCED COMPUTING - SAGAYA AURELIA 2022

THIS VOLUME PRESENTS SELECT PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON SUSTAINABLE ADVANCED COMPUTING (ICSAC 2021). IT COVERS THE LATEST RESEARCH ON A WIDE RANGE OF TOPICS SPANNING THEORY, SYSTEMS, APPLICATIONS, AND CASE STUDIES IN ADVANCED COMPUTING. TOPICS COVERED ARE MACHINE INTELLIGENCE, EXPERT SYSTEMS, ROBOTICS, NATURAL LANGUAGE PROCESSING, COGNITIVE SCIENCE, QUANTUM COMPUTING, DEEP LEARNING, PATTERN RECOGNITION, HUMAN-COMPUTER INTERFACE, BIOMETRICS, GRAPH THEORY, ETC. THE VOLUME FOCUSES ON THE NOVEL RESEARCH FINDINGS AND INNOVATIONS OF VARIOUS RESEARCHERS. IN ADDITION, THE BOOK WILL BE A PROMISING SOLUTION FOR NEW GENERATION-BASED SUSTAINABLE, INTELLIGENT SYSTEMS THAT ARE MACHINE AND HUMAN-CENTERED WITH MODERN MODELS AND APPROPRIATE AMALGAMATIONS OF COLLABORATIVE PRACTICES WITH A GENERAL OBJECTIVE OF BETTER RESEARCH IN ALL ASPECTS OF SUSTAINABLE ADVANCED COMPUTING. .

APPLYING INTEGRATION TECHNIQUES AND METHODS IN DISTRIBUTED SYSTEMS AND TECHNOLOGIES - KECSKEMETI, GABOR 2019-04-12

DISTRIBUTED SYSTEMS INTERTWINE WITH OUR EVERYDAY LIVES. THE BENEFITS AND CURRENT SHORTCOMINGS OF THE UNDERPINNING TECHNOLOGIES ARE EXPERIENCED BY A WIDE RANGE OF PEOPLE AND THEIR SMART DEVICES. WITH THE RISE OF LARGE-SCALE IOT AND SIMILAR DISTRIBUTED SYSTEMS, CLOUD BURSTING TECHNOLOGIES, AND PARTIAL OUTSOURCING SOLUTIONS, PRIVATE ENTITIES ARE ENCOURAGED TO INCREASE THEIR EFFICIENCY AND OFFER UNPARALLELED AVAILABILITY AND RELIABILITY TO THEIR USERS. APPLYING INTEGRATION TECHNIQUES AND METHODS IN DISTRIBUTED SYSTEMS IS A CRITICAL SCHOLARLY PUBLICATION THAT DEFINES THE CURRENT STATE OF DISTRIBUTED SYSTEMS, DETERMINES FURTHER GOALS, AND PRESENTS ARCHITECTURES AND SERVICE FRAMEWORKS TO ACHIEVE HIGHLY INTEGRATED DISTRIBUTED SYSTEMS AND PRESENTS SOLUTIONS TO INTEGRATION AND EFFICIENT MANAGEMENT CHALLENGES FACED BY CURRENT AND FUTURE DISTRIBUTED SYSTEMS. HIGHLIGHTING TOPICS SUCH AS MULTIMEDIA, PROGRAMMING LANGUAGES, AND SMART ENVIRONMENTS, THIS BOOK IS IDEAL FOR SYSTEM ADMINISTRATORS, INTEGRATORS, DESIGNERS, DEVELOPERS, RESEARCHERS, AND ACADEMICIANS.

MACHINE LEARNING AND OPTIMIZATION MODELS FOR OPTIMIZATION IN CLOUD - PUNIT GUPTA 2022-02-17

MACHINE LEARNING AND MODELS FOR OPTIMIZATION IN CLOUD'S MAIN AIM IS TO MEET THE USER REQUIREMENT WITH HIGH QUALITY OF SERVICE, LEAST TIME FOR COMPUTATION AND HIGH RELIABILITY. WITH INCREASE IN SERVICES MIGRATING OVER CLOUD PROVIDERS, THE LOAD OVER THE CLOUD INCREASES RESULTING IN FAULT AND VARIOUS SECURITY FAILURE IN THE SYSTEM RESULTS IN DECREASING RELIABILITY. TO FULFILL THIS REQUIREMENT CLOUD SYSTEM USES INTELLIGENT METAHEURISTIC AND PREDICTION ALGORITHM TO PROVIDE RESOURCES TO THE USER IN AN EFFICIENT MANNER TO MANAGE THE PERFORMANCE OF THE SYSTEM AND PLAN FOR UPCOMING REQUESTS. INTELLIGENT ALGORITHM HELPS THE SYSTEM TO PREDICT AND FIND A SUITABLE RESOURCE FOR A CLOUD ENVIRONMENT IN REAL TIME WITH LEAST COMPUTATIONAL COMPLEXITY TAKING INTO MIND THE SYSTEM PERFORMANCE IN UNDER LOADED AND OVER LOADED CONDITION. THIS BOOK DISCUSSES THE FUTURE IMPROVEMENTS AND POSSIBLE INTELLIGENT OPTIMIZATION MODELS USING ARTIFICIAL INTELLIGENCE, DEEP LEARNING TECHNIQUES AND OTHER HYBRID MODELS TO IMPROVE THE PERFORMANCE OF CLOUD. VARIOUS METHODS TO ENHANCE THE DIRECTIVITY OF CLOUD SERVICES HAVE BEEN PRESENTED WHICH WOULD ENABLE CLOUD TO PROVIDE BETTER SERVICES, PERFORMANCE AND QUALITY OF SERVICE TO USER. IT TALKS ABOUT THE NEXT GENERATION INTELLIGENT OPTIMIZATION AND FAULT MODEL TO IMPROVE SECURITY AND RELIABILITY OF CLOUD. KEY FEATURES · COMPREHENSIVE INTRODUCTION TO CLOUD ARCHITECTURE AND ITS SERVICE MODELS. · VULNERABILITY AND ISSUES IN CLOUD SAAS, PAAS AND IAAS · FUNDAMENTAL ISSUES RELATED TO OPTIMIZING THE PERFORMANCE IN CLOUD COMPUTING USING META-HEURISTIC, AI AND ML MODELS · DETAILED STUDY OF OPTIMIZATION TECHNIQUES, AND FAULT MANAGEMENT TECHNIQUES IN MULTI LAYERED CLOUD. · METHODS TO IMPROVE RELIABILITY AND FAULT IN CLOUD USING NATURE INSPIRED ALGORITHMS AND ARTIFICIAL NEURAL NETWORK. · ADVANCED STUDY OF ALGORITHMS USING ARTIFICIAL INTELLIGENCE FOR OPTIMIZATION IN CLOUD · METHOD FOR POWER EFFICIENT VIRTUAL MACHINE PLACEMENT USING NEURAL NETWORK IN CLOUD · METHOD FOR

TASK SCHEDULING USING METAHEURISTIC ALGORITHMS. * A STUDY OF MACHINE LEARNING AND DEEP LEARNING INSPIRED RESOURCE ALLOCATION ALGORITHM FOR CLOUD IN FAULT AWARE ENVIRONMENT. THIS BOOK AIMS TO CREATE A RESEARCH INTEREST & MOTIVATION FOR GRADUATES DEGREE OR POST-GRADUATES. IT AIMS TO PRESENT A STUDY ON OPTIMIZATION ALGORITHMS IN CLOUD FOR RESEARCHERS TO PROVIDE THEM WITH A GLIMPSE OF FUTURE OF CLOUD COMPUTING IN THE ERA OF ARTIFICIAL INTELLIGENCE.

THE A.I. MARKETER - ANDREW W. PEARSON 2019-04-15

WE SEEM TO BE LIVING IN THE AGE OF A.I. EVERYWHERE YOU LOOK, COMPANIES ARE TOUTING THEIR MOST RECENT A.I., MACHINE LEARNING, AND DEEP LEARNING BREAKTHROUGHS, EVEN WHEN THEY ARE FAR SHORT OF ANYTHING THAT COULD BE TOUTED AS A "BREAKTHROUGH." "A.I." HAS ECLIPSED "BLOCKCHAIN" AND "CRYPTO" AS THE BUZZWORD OF TODAY. INDEED, ONE OF THE BEST WAYS TO RAISE VC FUNDING IS TO STICK 'AI' OR 'ML' AT THE FRONT OF YOUR PROSPECTUS AND ".AI" AT THE END OF YOUR WEBSITE. SEPARATING FACT FROM FICTION IS MORE IMPORTANT THAN IT HAS EVER BEEN. THE A.I. MARKETER BREAKS DOWN A.I., MACHINE LEARNING, AND DEEP LEARNING INTO FIVE UNIQUE USE CASES—SOUND, TIME SERIES, TEXT, IMAGE, AND VIDEO—AND ALSO REVEALS HOW MARKETING EXECUTIVES CAN UTILIZE THIS POWERFUL TECHNOLOGY TO HELP THEM MORE FINELY TUNE THEIR MARKETING CAMPAIGNS, BETTER SEGMENT THEIR CUSTOMERS, INCREASE LEAD GENERATION, AND FOSTER STRONG CUSTOMER LOYALTY. TODAY, "PERSONALIZATION"—THE PROCESS OF UTILIZING MOBILE, SOCIAL, GEO-LOCATION DATA, WEB MORPHING, CONTEXT AND EVEN AFFECTIVE COMPUTING TO TAILOR MESSAGES AND EXPERIENCES TO AN INDIVIDUAL INTERACTING WITH THEM—IS BECOMING THE OPTIMUM WORD IN A RADICALLY NEW CUSTOMER INTELLIGENCE ENVIRONMENT. THE A.I. MARKETER EXPLAINS THIS COMPLEX TECHNOLOGY IN SIMPLE TO UNDERSTAND TERMS AND THEN SHOWS HOW MARKETERS CAN UTILIZE THE PSYCHOLOGY OF PERSONALIZATION WITH A.I. TO BOTH CREATE MORE EFFECTIVE MARKETING CAMPAIGNS AS WELL AS INCREASE CUSTOMER LOYALTY. PEARSON SHOWS COMPANIES HOW TO AVOID ADOBE'S WARNING OF NOT USING INDUSTRIAL-AGE TECHNOLOGY IN THE DIGITAL ERA. PEARSON ALSO REVEALS HOW TO CREATE A PLATFORM OF TECHNOLOGY THAT SEAMLESSLY INTEGRATES EDW AND REAL-TIME STREAMING DATA WITH SOCIAL MEDIA CONTENT. ANALYTICAL MODELS AND NEURAL NETS CAN THEN BE BUILT ON BOTH COMMERCIAL AND OPEN SOURCE TECHNOLOGY TO BETTER UNDERSTAND THE CUSTOMER, THEREBY STRENGTHENING THE BRAND AND, JUST AS IMPORTANTLY, INCREASING ROI.

INTELLIGENT SYSTEM DESIGN - VIKRANT BHATEJA 2022-10-27

THIS BOOK PRESENTS A COLLECTION OF HIGH-QUALITY, PEER-REVIEWED RESEARCH PAPERS FROM THE 7TH INTERNATIONAL CONFERENCE ON INFORMATION SYSTEM DESIGN AND INTELLIGENT APPLICATIONS (INDIA 2022), HELD AT BVRIT HYDERABAD COLLEGE OF ENGINEERING FOR WOMEN, HYDERABAD, TELANGANA, INDIA, FROM FEBRUARY 25 TO 26, 2022. IT COVERS A WIDE RANGE OF TOPICS IN COMPUTER SCIENCE AND INFORMATION TECHNOLOGY, INCLUDING DATA MINING AND DATA WAREHOUSING, HIGH-PERFORMANCE COMPUTING, PARALLEL AND DISTRIBUTED COMPUTING, COMPUTATIONAL INTELLIGENCE, SOFT COMPUTING, BIG DATA, CLOUD COMPUTING, GRID COMPUTING AND COGNITIVE COMPUTING.

CYBERNETICS, COGNITION AND MACHINE LEARNING APPLICATIONS - VINIT KUMAR GUNJAN 2020-04-20

THIS BOOK PROVIDES A COLLECTION OF SELECTED PAPERS PRESENTED AT THE INTERNATIONAL CONFERENCE ON CYBERNETICS, COGNITION AND MACHINE LEARNING APPLICATIONS (ICCCMLA 2019), WHICH WAS HELD IN GOA, INDIA, ON 16-17 AUGUST 2019. IT COVERS THE LATEST RESEARCH TRENDS AND ADVANCES IN THE AREAS OF DATA SCIENCE, ARTIFICIAL INTELLIGENCE, NEURAL NETWORKS, COGNITIVE SCIENCE AND MACHINE LEARNING APPLICATIONS, CYBER-PHYSICAL SYSTEMS, AND CYBERNETICS.

METHODS AND APPLICATIONS FOR MODELING AND SIMULATION OF COMPLEX SYSTEMS - LIANG LI 2018-10-17

THIS VOLUME CONSTITUTES THE PROCEEDINGS OF THE 18TH ASIA SIMULATION CONFERENCE, ASIASIM 2018, HELD IN KYOTO, JAPAN, IN AUGUST 2018. THE 45 REVISED FULL PAPERS PRESENTED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM 90 SUBMISSIONS. THE PAPERS ARE ORGANIZED IN TOPICAL SECTIONS ON MODELING AND SIMULATION TECHNOLOGY; SOFT COMPUTING AND MACHINE LEARNING; HIGH PERFORMANCE COMPUTING AND CLOUD COMPUTING; SIMULATION TECHNOLOGY FOR INDUSTRY; SIMULATION TECHNOLOGY FOR INTELLIGENT SOCIETY; SIMULATION OF INSTRUMENTATION AND CONTROL APPLICATION; COMPUTATIONAL MATHEMATICS AND COMPUTATIONAL SCIENCE; FLOW SIMULATION; VISUALIZATION AND COMPUTER VISION TO SUPPORT SIMULATION.

THE 8TH INTERNATIONAL CONFERENCE ON ADVANCED MACHINE LEARNING AND TECHNOLOGIES AND APPLICATIONS (AMLT A2022) - ABOUL ELLA HASSANEN 2022

THIS BOOK CONSTITUTES THE REFEREED PROCEEDINGS OF THE 8TH INTERNATIONAL CONFERENCE ON ADVANCED MACHINE LEARNING TECHNOLOGIES AND APPLICATIONS, AMLTA 2022, HELD IN CAIRO, EGYPT, DURING MAY 5-7, 2022. THE 8TH EDITION OF AMLTA WILL BE ORGANIZED BY THE SCIENTIFIC RESEARCH GROUP IN EGYPT (SRGE), EGYPT, COLLABORATING WITH PORT SAID UNIVERSITY, EGYPT, AND VSB-TECHNICAL UNIVERSITY OF OSTRAVA, CZECH REPUBLIC. AMLTA SERIES AIMS TO BECOME THE PREMIER INTERNATIONAL CONFERENCE FOR AN IN-DEPTH DISCUSSION ON THE MOST UP-TO-DATE AND INNOVATIVE IDEAS, RESEARCH PROJECTS, AND PRACTICES IN THE FIELD OF MACHINE LEARNING TECHNOLOGIES AND THEIR APPLICATIONS. THE BOOK COVERS CURRENT RESEARCH ON ADVANCED MACHINE LEARNING TECHNOLOGY, INCLUDING DEEP LEARNING TECHNOLOGY, SENTIMENT ANALYSIS, CYBER-PHYSICAL SYSTEM, IOT, AND SMART CITIES INFORMATICS AND AI AGAINST COVID-19, DATA MINING, POWER AND CONTROL SYSTEMS, BUSINESS INTELLIGENCE, SOCIAL MEDIA, DIGITAL TRANSFORMATION, AND SMART SYSTEMS.

THE FUTURE OF DIGITAL BUSINESS INNOVATION - VINCENZO MORABITO 2016-03-05

THIS BOOK IDENTIFIES AND DISCUSSES THE MAIN CHALLENGES FACING DIGITAL BUSINESS INNOVATION AND THE EMERGING TRENDS AND PRACTICES THAT WILL DEFINE ITS FUTURE. THE BOOK IS DIVIDED INTO THREE SECTIONS COVERING TRENDS IN DIGITAL SYSTEMS, DIGITAL MANAGEMENT, AND DIGITAL INNOVATION. THE OPENING CHAPTERS CONSIDER THE ISSUES ASSOCIATED WITH MACHINE INTELLIGENCE, WEARABLE TECHNOLOGY, DIGITAL CURRENCIES, AND DISTRIBUTED LEDGERS AS THEIR RELEVANCE FOR BUSINESS GROWS. FURTHERMORE, THE STRATEGIC ROLE OF DATA VISUALIZATION AND TRENDS IN DIGITAL SECURITY ARE EXTENSIVELY DISCUSSED. THE SUBSEQUENT SECTION ON DIGITAL MANAGEMENT FOCUSES ON THE IMPACT OF NEUROSCIENCE ON THE MANAGEMENT OF INFORMATION SYSTEMS, THE ROLE

OF IT AMBIDEXTERITY IN MANAGING DIGITAL TRANSFORMATION, AND THE WAY IN WHICH IT ALIGNMENT IS BEING RECONFIGURED BY DIGITAL BUSINESS. FINALLY, EXAMPLES OF DIGITAL INNOVATION IN PRACTICE AT THE GLOBAL LEVEL ARE PRESENTED AND REVIEWED. THE BOOK WILL APPEAL TO BOTH PRACTITIONERS AND ACADEMICS. THE TEXT IS SUPPORTED BY INFORMATIVE ILLUSTRATIONS AND CASE STUDIES, SO THAT PRACTITIONERS CAN USE THE BOOK AS A TOOLBOX THAT ENABLES EASY UNDERSTANDING AND ASSISTS IN EXPLOITING BUSINESS OPPORTUNITIES INVOLVING DIGITAL BUSINESS INNOVATION.

ADVANCED MACHINE LEARNING TECHNOLOGIES AND APPLICATIONS - ABOUL-ELLA HASSANEN 2021-03-04

THIS BOOK PRESENTS THE REFEREED PROCEEDINGS OF THE 6TH INTERNATIONAL CONFERENCE ON ADVANCED MACHINE LEARNING TECHNOLOGIES AND APPLICATIONS (AMLT A 2021) HELD IN CAIRO, EGYPT, DURING MARCH 22-24, 2021, AND ORGANIZED BY THE SCIENTIFIC RESEARCH GROUP OF EGYPT (SRGE). THE PAPERS COVER CURRENT RESEARCH ARTIFICIAL INTELLIGENCE AGAINST COVID-19, INTERNET OF THINGS HEALTHCARE SYSTEMS, DEEP LEARNING TECHNOLOGY, SENTIMENT ANALYSIS, CYBER-PHYSICAL SYSTEM, HEALTH INFORMATICS, DATA MINING, POWER AND CONTROL SYSTEMS, BUSINESS INTELLIGENCE, SOCIAL MEDIA, CONTROL DESIGN, AND SMART SYSTEMS.

GO GREEN FOR ENVIRONMENTAL SUSTAINABILITY - XAVIER SAVARIMUTHU, SJ 2021-07-14

THIS BOOK HIGHLIGHTS TOPICS RANGING FROM GREEN CHEMISTRY AND ENGINEERING TO BIOREMEDIATION, SMART TECHNOLOGIES, AND SUSTAINABLE BUSINESS PRACTICES. THE COMMON THREADS RUNNING THROUGH THIS VOLUME ARE THE NEED FOR URGENT ACTION, A VISION FOR A SUSTAINABLE FUTURE, AND THE AWARENESS THAT SOLUTIONS MUST BE WIDELY ACCESSIBLE AND ADVANCE THE WELFARE OF ALL NATIONS, ESPECIALLY IN THE FACE OF CLIMATE CHANGE. THE AUTHORS DELINEATE HOW WE CAN PROTECT AND RESTORE NATURAL ECOSYSTEM POTENTIAL TO ACHIEVE ENVIRONMENTAL SUSTAINABILITY. THEY PROVIDE A CLEAR IDEA OF TODAY'S ENVIRONMENTAL CHALLENGES AND SOLUTIONS, FOCUS ON ENERGY USE PATTERNS AND THE REDUCTION OF ENERGY CONSUMPTION, ADVOCATE FOR INCREASED ENVIRONMENTAL AWARENESS, AND DISCUSS ENVIRONMENTAL MONITORING SYSTEMS. THE BOOK CONTAINS MANY DOMESTIC AND INTERNATIONAL CASE STUDIES AND SHOWCASES VISIONARY IDEAS IN ACTION TO ILLUSTRATE SUSTAINABILITY PRINCIPLES. THIS VOLUME PROVIDES AN IN-DEPTH REFERENCE FOR STAKEHOLDERS FROM ACADEMIA, GOVERNMENT, AND INDUSTRY ON THE LATEST RESEARCH IN ENVIRONMENTAL SUSTAINABILITY SOLUTIONS. INSPIRED BY THE COMMON WISDOM THAT WE DO NOT INHERIT THIS EARTH FROM OUR ANCESTORS BUT INSTEAD BORROW IT FROM OUR CHILDREN, THE AUTHORS OFFER SOLUTIONS TO EMERGENT PROBLEMS. THIS RESEARCH COMPRISES AN IMPORTANT CONTRIBUTION TO THE GLOBAL EFFORT TO BUILD A MORE SUSTAINABLE TOMORROW.

EURO-PAR 2018: PARALLEL PROCESSING - MARCO ALDINUCCI 2018-08-20

THIS BOOK CONSTITUTES THE PROCEEDINGS OF THE 24TH INTERNATIONAL CONFERENCE ON PARALLEL AND DISTRIBUTED COMPUTING, EURO-PAR 2018, HELD IN TURIN, ITALY, IN AUGUST 2018. THE 57 FULL PAPERS PRESENTED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM 194 SUBMISSIONS. THEY WERE ORGANIZED IN TOPICAL SECTIONS NAMED: SUPPORT TOOLS AND ENVIRONMENTS; PERFORMANCE AND POWER MODELING, PREDICTION AND EVALUATION; SCHEDULING AND LOAD BALANCING; HIGH PERFORMANCE ARCHITECTURES AND COMPILERS; PARALLEL AND DISTRIBUTED DATA MANAGEMENT AND ANALYTICS; CLUSTER AND CLOUD COMPUTING; DISTRIBUTED SYSTEMS AND ALGORITHMS; PARALLEL AND DISTRIBUTED PROGRAMMING, INTERFACES, AND LANGUAGES; MULTICORE AND MANYCORE METHODS AND TOOLS; THEORY AND ALGORITHMS FOR PARALLEL COMPUTATION AND NETWORKING; PARALLEL NUMERICAL METHODS AND APPLICATIONS; AND ACCELERATOR COMPUTING FOR ADVANCED APPLICATIONS.

FUZZY SYSTEMS: CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS - MANAGEMENT ASSOCIATION, INFORMATION RESOURCES 2017-02-22

THERE ARE A MYRIAD OF MATHEMATICAL PROBLEMS THAT CANNOT BE SOLVED USING TRADITIONAL METHODS. THE DEVELOPMENT OF FUZZY EXPERT SYSTEMS HAS PROVIDED NEW OPPORTUNITIES FOR PROBLEM-SOLVING AMIDST UNCERTAINTIES. FUZZY SYSTEMS: CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS IS A COMPREHENSIVE REFERENCE SOURCE ON THE LATEST SCHOLARLY RESEARCH AND DEVELOPMENTS IN FUZZY RULE-BASED METHODS AND EXAMINES BOTH THEORETICAL FOUNDATIONS AND REAL-WORLD UTILIZATION OF THESE LOGIC SETS. FEATURING A RANGE OF EXTENSIVE COVERAGE ACROSS INNOVATIVE TOPICS, SUCH AS FUZZY LOGIC, RULE-BASED SYSTEMS, AND FUZZY ANALYSIS, THIS IS AN ESSENTIAL PUBLICATION FOR SCIENTISTS, DOCTORS, ENGINEERS, PHYSICIANS, AND RESEARCHERS INTERESTED IN EMERGING PERSPECTIVES AND USES OF FUZZY SYSTEMS IN VARIOUS SECTORS.

INTELLIGENT ROBOTICS AND APPLICATIONS - XIN-JUN LIU 2021-10-19

THE 4-VOLUME SET LNAI 13013 - 13016 CONSTITUTES THE PROCEEDINGS OF THE 14TH INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTICS AND APPLICATIONS, ICIRA 2021, WHICH TOOK PLACE IN YANTAI, CHINA, DURING OCTOBER 22-25, 2021. THE 299 PAPERS INCLUDED IN THESE PROCEEDINGS WERE CAREFULLY REVIEWED AND SELECTED FROM 386 SUBMISSIONS. THEY WERE ORGANIZED IN TOPICAL SECTIONS AS FOLLOWS: ROBOTICS DEXTEROUS MANIPULATION; SENSORS, ACTUATORS, AND CONTROLLERS FOR SOFT AND HYBRID ROBOTS; CABLE-DRIVEN PARALLEL ROBOT; HUMAN-CENTERED WEARABLE ROBOTICS; HYBRID SYSTEM MODELING AND HUMAN-MACHINE INTERFACE; ROBOT MANIPULATION SKILLS LEARNING; MICRO_NANO MATERIALS, DEVICES, AND SYSTEMS FOR BIOMEDICAL APPLICATIONS; ACTUATING, SENSING, CONTROL, AND INSTRUMENTATION FOR ULTRA-PRECISION ENGINEERING; HUMAN-ROBOT COLLABORATION; ROBOTIC MACHINING; MEDICAL ROBOT; MACHINE INTELLIGENCE FOR HUMAN MOTION ANALYTICS; HUMAN-ROBOT INTERACTION FOR SERVICE ROBOTS; NOVEL MECHANISMS, ROBOTS AND APPLICATIONS; SPACE ROBOT AND ON-ORBIT SERVICE; NEURAL LEARNING ENHANCED MOTION PLANNING AND CONTROL FOR HUMAN ROBOT INTERACTION; MEDICAL ENGINEERING.

IN SEARCH OF GOOD ENERGY POLICY - MARC OZAWA 2019-06-20

OFFERS AN INNOVATIVE LOOK AT WHY SCIENCE AND TECHNOLOGY CANNOT ALONE MEET THE NEEDS OF ENERGY POLICY MAKING IN THE FUTURE.

INTERNATIONAL TAXATION OF CLOUD COMPUTING - ALEXANDER WEISSER 2020-10-07

CLOUD COMPUTING MAY BE BORDERLESS, BUT TAXES ARE TERRITORIAL. IT IS EASY TO IMAGINE HOW THE TWO CONCEPTS CAN CLASH.

MUCH EFFORT HAS GONE INTO HARMONIZING TAX RULES ACROSS BORDERS WITH THE RESULT THAT MANY JURISDICTIONS HAVE VERY SIMILAR TAX RULES. EVEN SO, TAXATION REMAINS A BASIC EXPRESSION OF NATIONAL SOVEREIGNTY. THE GOAL OF THIS THESIS IS TO EXAMINE HOW INTERNATIONAL TAX LAW APPLIES TO THE CROSS-BORDER CLOUD COMPUTING BUSINESS. BOTH, MULTINATIONAL PROVIDERS AND CUSTOMERS OF CLOUD COMPUTING SERVICES ARE ANALYZED. REFLECTING THREE TRADITIONAL AREAS OF INTERNATIONAL TAX SCHOLARSHIP, THE GOAL COULD BE STATED IN THREE QUESTIONS. WHICH JURISDICTIONS HAVE THE RIGHT TO TAX? WHAT KINDS OF CLOUD COMPUTING TRANSACTIONS CAN BE TAXED? WHAT AMOUNT OF THE PROFIT IS TAXABLE? IN MORE TECHNICAL TERMS, THIS MEANS ENQUIRING INTO HOW THE USE OF CLOUD COMPUTING AFFECTS THE PERMANENT ESTABLISHMENT STATUS OF TAXPAYERS, HOW THE DIFFERENT KINDS OF CLOUD COMPUTING TRANSACTIONS ARE CHARACTERIZED UNDER INTERNATIONAL DOUBLE TAXATION TREATIES, AND HOW THE CALCULATION OF TAXABLE CLOUD COMPUTING PROFIT IS AFFECTED BY TRANSFER PRICING. IN LIGHT OF THE CURRENT POLITICAL EVENTS, THE THESIS ALSO OFFERS RECOMMENDATIONS DE LEGE LATA THROUGH A SYSTEMATIC APPROACH. ITS FIRST PART ASSESSES THE CURRENT TAXATION OF CLOUD COMPUTING. THE SECOND PART EVALUATES WHETHER THE FINDINGS OF THIS INITIAL ASSESSMENT CONFORM TO VARIOUS SUPERIOR PRINCIPLES OF GOOD RULEMAKING. IT IDENTIFIES WHICH OF THE PRESENT TAX RULES OUGHT TO BE ADAPTED. THE FINAL PART CONSIDERS HOW THE RULES COULD BE AMENDED TO BECOME MORE COMPLIANT WITH THE SUPERIOR PRINCIPLES. IN THIS WAY, PART I EMBODIES THE THESIS, PART II THE ANTITHESIS, AND PART III SEEKS A SYNTHESIS.

HIGH PERFORMANCE COMPUTING - HEIKE JAGODE 2021-11-12

THIS BOOK CONSTITUTES THE REFEREED POST-CONFERENCE PROCEEDINGS OF 9 WORKSHOPS HELD AT THE 35TH INTERNATIONAL ISC HIGH PERFORMANCE 2021 CONFERENCE, IN FRANKFURT, GERMANY, IN JUNE-JULY 2021: SECOND INTERNATIONAL WORKSHOP ON THE APPLICATION OF MACHINE LEARNING TECHNIQUES TO COMPUTATIONAL FLUID DYNAMICS AND SOLID MECHANICS SIMULATIONS AND ANALYSIS; HPC-IODC: HPC I/O IN THE DATA CENTER WORKSHOP; COMPILER-ASSISTED CORRECTNESS CHECKING AND PERFORMANCE OPTIMIZATION FOR HPC; MACHINE LEARNING ON HPC SYSTEMS; 4TH INTERNATIONAL WORKSHOP ON INTEROPERABILITY OF SUPERCOMPUTING AND CLOUD TECHNOLOGIES; 2ND INTERNATIONAL WORKSHOP ON MONITORING AND OPERATIONAL DATA ANALYTICS; 16TH WORKSHOP ON VIRTUALIZATION IN HIGH-PERFORMANCE CLOUD COMPUTING; DEEP LEARNING ON SUPERCOMPUTERS; 5TH INTERNATIONAL WORKSHOP ON IN SITU VISUALIZATION. THE 35 PAPERS INCLUDED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED. THEY COVER ALL ASPECTS OF RESEARCH, DEVELOPMENT, AND APPLICATION OF LARGE-SCALE, HIGH PERFORMANCE EXPERIMENTAL AND COMMERCIAL SYSTEMS. TOPICS INCLUDE HIGH-PERFORMANCE COMPUTING (HPC), COMPUTER ARCHITECTURE AND HARDWARE, PROGRAMMING MODELS, SYSTEM SOFTWARE, PERFORMANCE ANALYSIS AND MODELING, COMPILER ANALYSIS AND OPTIMIZATION TECHNIQUES, SOFTWARE SUSTAINABILITY, SCIENTIFIC APPLICATIONS, DEEP LEARNING.

GREEN INFORMATION TECHNOLOGY - MOHAMMAD DASTBAZ 2015-03-09

WE ARE LIVING IN THE ERA OF "BIG DATA" AND THE COMPUTING POWER REQUIRED TO DEAL WITH "BIG DATA" BOTH IN TERMS OF ITS ENERGY CONSUMPTION AND TECHNICAL COMPLEXITY IS ONE OF THE KEY AREAS OF RESEARCH AND DEVELOPMENT. THE U.S. ENVIRONMENTAL PROTECTION AGENCY ESTIMATES THAT CENTRALIZED COMPUTING INFRASTRUCTURES (DATA CENTRES) CURRENTLY USE 7 GIGA WATTS OF ELECTRICITY DURING PEAK LOADS. THIS TRANSLATES INTO ABOUT 61 BILLION KILOWATT HOURS OF ELECTRICITY USED. BY THE EPA'S ESTIMATES, POWER-HUNGRY DATA CENTRES CONSUME THE ANNUAL OUTPUT OF 15 AVERAGE-SIZED POWER PLANTS. ONE OF THE TOP CONSTRAINTS TO INCREASING COMPUTING POWER, BESIDES THE ABILITY TO COOL, IS SIMPLY DELIVERING ENOUGH POWER TO A GIVEN PHYSICAL SPACE. GREEN INFORMATION TECHNOLOGY: A SUSTAINABLE APPROACH OFFERS IN A SINGLE VOLUME A BROAD COLLECTION OF PRACTICAL TECHNIQUES AND METHODOLOGIES FOR DESIGNING, BUILDING AND IMPLEMENTING A GREEN TECHNOLOGY STRATEGY IN ANY LARGE ENTERPRISE ENVIRONMENT, WHICH UP UNTIL NOW HAS BEEN SCATTERED IN DIFFICULT-TO-FIND SCHOLARLY RESOURCES. INCLUDED HERE IS THE LATEST INFORMATION ON EMERGING TECHNOLOGIES AND THEIR ENVIRONMENTAL IMPACT, HOW TO EFFECTIVELY MEASURE SUSTAINABILITY, DISCUSSIONS ON SUSTAINABLE HARDWARE AND SOFTWARE DESIGN, AS WELL AS HOW TO USE BIG DATA AND CLOUD COMPUTING TO DRIVE EFFICIENCIES AND ESTABLISH A FRAMEWORK FOR SUSTAINABILITY IN THE INFORMATION TECHNOLOGY INFRASTRUCTURE. WRITTEN BY RECOGNIZED EXPERTS IN BOTH ACADEMIA AND INDUSTRY, GREEN INFORMATION TECHNOLOGY: A SUSTAINABLE APPROACH IS A MUST-HAVE GUIDE FOR RESEARCHERS, COMPUTER ARCHITECTS, COMPUTER ENGINEERS AND IT PROFESSIONALS WITH AN INTEREST IN GREATER EFFICIENCY WITH LESS ENVIRONMENTAL IMPACT. INTRODUCES THE CONCEPT OF USING GREEN PROCUREMENT AND SUPPLY CHAIN PROGRAMS IN THE IT INFRASTRUCTURE. DISCUSSES HOW TO USE BIG DATA TO DRIVE EFFICIENCIES AND ESTABLISH A FRAMEWORK FOR SUSTAINABILITY IN THE INFORMATION TECHNOLOGY INFRASTRUCTURE. EXPLAINS HOW CLOUD COMPUTING CAN BE USED TO CONSOLIDATE CORPORATE IT ENVIRONMENTS USING LARGE-SCALE SHARED INFRASTRUCTURE REDUCING THE OVERALL ENVIRONMENTAL IMPACT AND UNLOCKING NEW EFFICIENCIES. PROVIDES SPECIFIC USE CASES FOR GREEN IT SUCH AS DATA CENTER ENERGY EFFICIENCY AND CLOUD COMPUTING SUSTAINABILITY AND RISK.

DATA DEDUPLICATION APPROACHES - TIN THEIN THWEL 2020-11-25

IN THE AGE OF DATA SCIENCE, THE RAPIDLY INCREASING AMOUNT OF DATA IS A MAJOR CONCERN IN NUMEROUS APPLICATIONS OF THE COMPUTING OPERATIONS AND DATA STORAGE. DUPLICATED DATA OR REDUNDANT DATA IS A MAIN CHALLENGE IN THE FIELD OF DATA SCIENCE RESEARCH. DATA DEDUPLICATION APPROACHES: CONCEPTS, STRATEGIES, AND CHALLENGES SHOWS READERS THE VARIOUS METHODS THAT CAN BE USED TO ELIMINATE MULTIPLE COPIES OF THE SAME FILES AS WELL AS DUPLICATED SEGMENTS OR CHUNKS OF DATA WITHIN THE ASSOCIATED FILES. DUE TO EVER-INCREASING DATA DUPLICATION, ITS DEDUPLICATION HAS BECOME AN ESPECIALLY USEFUL FIELD OF RESEARCH FOR STORAGE ENVIRONMENTS, IN PARTICULAR PERSISTENT DATA STORAGE. DATA DEDUPLICATION APPROACHES PROVIDES READERS WITH AN OVERVIEW OF THE CONCEPTS AND BACKGROUND OF DATA DEDUPLICATION APPROACHES, THEN PROCEEDS TO DEMONSTRATE IN TECHNICAL DETAIL THE STRATEGIES AND CHALLENGES OF REAL-TIME IMPLEMENTATIONS OF HANDLING BIG DATA, DATA SCIENCE, DATA BACKUP, AND RECOVERY. THE BOOK ALSO INCLUDES FUTURE RESEARCH DIRECTIONS, CASE STUDIES, AND REAL-WORLD APPLICATIONS OF DATA DEDUPLICATION, FOCUSING ON REDUCED STORAGE, BACKUP, RECOVERY, AND RELIABILITY. INCLUDES

DATA DEDUPLICATION METHODS FOR A WIDE VARIETY OF APPLICATIONS INCLUDES CONCEPTS AND IMPLEMENTATION STRATEGIES THAT WILL HELP THE READER TO USE THE SUGGESTED METHODS PROVIDES A ROBUST SET OF METHODS THAT WILL HELP READERS TO APPROPRIATELY AND JUDICIOUSLY USE THE SUITABLE METHODS FOR THEIR APPLICATIONS FOCUSES ON REDUCED STORAGE, BACKUP, RECOVERY, AND RELIABILITY, WHICH ARE THE MOST IMPORTANT ASPECTS OF IMPLEMENTING DATA DEDUPLICATION APPROACHES INCLUDES CASE STUDIES

AUSTRALIA'S ENERGY TRANSITION - GLEN CURRIE 2020-08-01

THIS BOOK STUDIES AUSTRALIA, A COUNTRY CHARACTERIZED BY THE HIGHEST CONCENTRATION OF DOMESTIC PHOTOVOLTAIC SYSTEMS. IN ADDITION, THE HIGH LEVEL OF SOLAR ENERGY THAT AUSTRALIA RECEIVES MAKES THESE SYSTEMS A SIGNIFICANT PART OF ITS ENERGY MIX. INTERNATIONAL ELECTRICITY SYSTEM MANAGERS TAKE NOTE; YOUR SYSTEMS ARE HEADING THIS WAY. THE ENERGY TRANSITION IS AN EMERGING FIELD, AND FEW TEXTS HAVE BEEN PUBLISHED THAT CAN HELP ENERGY PLANNERS AS THIS BOOK DOES. THE RESEARCH PRESENTED IS SOCIOTECHNICAL IN NATURE, AND REVEALS THAT THE MAIN CHALLENGE IN THE ENERGY TRANSITION IS ITS EMERGING SOCIAL ROLE. VERY FEW WORKS COMBINE THE SOCIAL AND TECHNICAL FIELDS OF ENERGY. GIVEN ITS SCOPE, THE BOOK WILL APPEAL TO READERS INTERESTED IN POLICY, REGULATION, AND ENERGY SYSTEMS, INCLUDING GOVERNMENT EMPLOYEES INVOLVED IN ENERGY SYSTEM MANAGEMENT ALL AROUND THE WORLD.

NEXT-GENERATION WIRELESS NETWORKS MEET ADVANCED MACHINE LEARNING APPLICATIONS - COMPA, IOAN-SORIN 2019-01-25

THE EVER-EVOLVING WIRELESS TECHNOLOGY INDUSTRY IS DEMANDING NEW TECHNOLOGIES AND STANDARDS TO ENSURE A HIGHER QUALITY OF EXPERIENCE FOR GLOBAL END-USERS. THIS DEVELOPING CHALLENGE HAS ENABLED RESEARCHERS TO IDENTIFY THE PRESENT TREND OF MACHINE LEARNING AS A POSSIBLE SOLUTION, BUT WILL IT MEET BUSINESS VELOCITY DEMAND? NEXT-GENERATION WIRELESS NETWORKS MEET ADVANCED MACHINE LEARNING APPLICATIONS IS A PIVOTAL REFERENCE SOURCE THAT PROVIDES EMERGING TRENDS AND INSIGHTS INTO VARIOUS TECHNOLOGIES OF NEXT-GENERATION WIRELESS NETWORKS TO ENABLE THE DYNAMIC OPTIMIZATION OF SYSTEM CONFIGURATION AND APPLICATIONS WITHIN THE FIELDS OF WIRELESS NETWORKS, BROADBAND NETWORKS, AND WIRELESS COMMUNICATION. FEATURING COVERAGE ON A BROAD RANGE OF TOPICS SUCH AS MACHINE LEARNING, HYBRID NETWORK ENVIRONMENTS, WIRELESS COMMUNICATIONS, AND THE INTERNET OF THINGS; THIS PUBLICATION IS IDEALLY DESIGNED FOR INDUSTRY EXPERTS, RESEARCHERS, STUDENTS, ACADEMICIANS, AND PRACTITIONERS SEEKING CURRENT RESEARCH ON VARIOUS TECHNOLOGIES OF NEXT-GENERATION WIRELESS NETWORKS.

OVERCOMPLICATED - SAMUEL ARBESMAN 2016-07-19

WHY DID THE NEW YORK STOCK EXCHANGE SUSPEND TRADING WITHOUT WARNING ON JULY 8, 2015? WHY DID CERTAIN TOYOTA VEHICLES ACCELERATE UNCONTROLLABLY AGAINST THE WILL OF THEIR DRIVERS? WHY DOES THE PROGRAMMING INSIDE OUR AIRPLANES OCCASIONALLY SURPRISE ITS CREATORS? AFTER A THOROUGH ANALYSIS BY THE TOP EXPERTS, THE ANSWERS STILL ELUDE US. YOU DON'T UNDERSTAND THE SOFTWARE RUNNING YOUR CAR OR YOUR IPHONE. BUT HERE'S A SECRET: NEITHER DO THE GENIUSES AT APPLE OR THE PH.D.'S AT TOYOTA—NOT PERFECTLY, ANYWAY. NO ONE, NOT LAWYERS, DOCTORS, ACCOUNTANTS, OR POLICY MAKERS, FULLY GRASPS THE RULES GOVERNING YOUR TAX RETURN, YOUR RETIREMENT ACCOUNT, OR YOUR HOSPITAL'S MEDICAL MACHINERY. THE SAME TECHNOLOGICAL ADVANCES THAT HAVE SIMPLIFIED OUR LIVES HAVE MADE THE SYSTEMS GOVERNING OUR LIVES INCOMPREHENSIBLE, UNPREDICTABLE, AND OVERCOMPLICATED. IN OVERCOMPLICATED, COMPLEXITY SCIENTIST SAMUEL ARBESMAN OFFERS A FRESH, INSIGHTFUL FIELD GUIDE TO LIVING WITH COMPLEX TECHNOLOGIES THAT DEFY HUMAN COMPREHENSION. AS TECHNOLOGY GROWS MORE COMPLEX, ARBESMAN ARGUES, ITS BEHAVIOR MIMICS THE VAGARIES OF THE NATURAL WORLD MORE THAN IT CONFORMS TO A MATHEMATICAL MODEL. IF WE ARE TO SURVIVE AND THRIVE IN THIS NEW AGE, WE MUST ABANDON OUR NEED FOR GOVERNING PRINCIPLES AND RULES AND ACCEPT THE CHAOS. BY EMBRACING AND OBSERVING THE FREAK ACCIDENTS AND FLUKES THAT DISRUPT OUR LIVES, WE CAN GAIN VALUABLE CLUES ABOUT HOW OUR ALGORITHMS REALLY WORK. WHAT'S MORE, WE WILL BECOME BETTER THINKERS, SCIENTISTS, AND INNOVATORS AS A RESULT. LUCID AND ENERGIZING, THIS BOOK IS A VITAL NEW ANALYSIS OF THE WORLD HERALDED AS "MODERN" FOR ANYONE WHO WANTS TO LIVE WISELY.

MODELLING AND DEVELOPMENT OF INTELLIGENT SYSTEMS - DANA SIMIAN 2020-01-16

THIS VOLUME CONSTITUTES THE REFEREED PROCEEDINGS OF THE 6TH INTERNATIONAL CONFERENCE ON MODELLING AND DEVELOPMENT OF INTELLIGENT SYSTEMS, MDIS 2019, HELD IN SIBIU, ROMANIA, IN OCTOBER 2019. THE 13 REVISED FULL PAPERS PRESENTED IN THE VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM 31 SUBMISSIONS. THE PAPERS ARE ORGANIZED IN TOPICAL SECTIONS ON ADAPTIVE SYSTEMS; CONCEPTUAL MODELLING; DATA MINING; INTELLIGENT SYSTEMS FOR DECISION SUPPORT; MACHINE LEARNING.

ADVANCED DEEP LEARNING APPLICATIONS IN BIG DATA ANALYTICS - BOUARARA, HADJ AHMED 2020-10-16

INTEREST IN BIG DATA HAS SWELLED WITHIN THE SCHOLARLY COMMUNITY AS HAS INCREASED ATTENTION TO THE INTERNET OF THINGS (IoT). ALGORITHMS ARE CONSTRUCTED IN ORDER TO PARSE AND ANALYZE ALL THIS DATA TO FACILITATE THE EXCHANGE OF INFORMATION. HOWEVER, BIG DATA HAS SUFFERED FROM PROBLEMS IN CONNECTIVITY, SCALABILITY, AND PRIVACY SINCE ITS BIRTH. THE APPLICATION OF DEEP LEARNING ALGORITHMS HAS HELPED PROCESS THOSE CHALLENGES AND REMAINS A MAJOR ISSUE IN TODAY'S DIGITAL WORLD. ADVANCED DEEP LEARNING APPLICATIONS IN BIG DATA ANALYTICS IS A PIVOTAL REFERENCE SOURCE THAT AIMS TO DEVELOP NEW ARCHITECTURE AND APPLICATIONS OF DEEP LEARNING ALGORITHMS IN BIG DATA AND THE IoT. HIGHLIGHTING A WIDE RANGE OF TOPICS SUCH AS ARTIFICIAL INTELLIGENCE, CLOUD COMPUTING, AND NEURAL NETWORKS, THIS BOOK IS IDEALLY DESIGNED FOR ENGINEERS, DATA ANALYSTS, DATA SCIENTISTS, IT SPECIALISTS, PROGRAMMERS, MARKETERS, ENTREPRENEURS, RESEARCHERS, ACADEMICIANS, AND STUDENTS.

SIGNAL PROCESSING AND NETWORKING FOR BIG DATA APPLICATIONS - ZHU HAN 2017-04-27

THIS UNIQUE TEXT HELPS MAKE SENSE OF BIG DATA USING SIGNAL PROCESSING TECHNIQUES, IN APPLICATIONS INCLUDING MACHINE LEARNING, NETWORKING, AND ENERGY SYSTEMS.

HANDBOOK OF ADVANCED PERFORMABILITY ENGINEERING - KRISHNA B. MISRA 2020-11-16

THIS BOOK CONSIDERS ALL ASPECTS OF PERFORMABILITY ENGINEERING, PROVIDING A HOLISTIC VIEW OF THE ACTIVITIES ASSOCIATED WITH A PRODUCT THROUGHOUT ITS ENTIRE LIFE CYCLE OF THE PRODUCT, AS WELL AS THE COST OF MINIMIZING THE ENVIRONMENTAL IMPACT AT EACH STAGE, WHILE MAXIMIZING THE PERFORMANCE. BUILDING ON THE EDITOR'S PREVIOUS HANDBOOK OF PERFORMABILITY ENGINEERING, IT EXPLAINS HOW PERFORMABILITY ENGINEERING PROVIDES US WITH A FRAMEWORK TO CONSIDER BOTH DEPENDABILITY AND SUSTAINABILITY IN THE OPTIMAL DESIGN OF PRODUCTS, SYSTEMS AND SERVICES, AND EXPLORES THE ROLE OF PERFORMABILITY IN ENERGY AND WASTE MINIMIZATION, RAW MATERIAL SELECTION, INCREASED PRODUCTION VOLUME, AND MANY OTHER AREAS OF ENGINEERING AND PRODUCTION. THE BOOK DISCUSSES A RANGE OF NEW IDEAS, CONCEPTS, DISCIPLINES, AND APPLICATIONS IN PERFORMABILITY, INCLUDING SMART MANUFACTURING AND INDUSTRY 4.0; CYBER-PHYSICAL SYSTEMS AND ARTIFICIAL INTELLIGENCE; DIGITAL TRANSFORMATION OF RAILWAYS; AND ASSET MANAGEMENT. GIVEN ITS BROAD SCOPE, IT WILL APPEAL TO RESEARCHERS, ACADEMICS, INDUSTRIAL PRACTITIONERS AND POSTGRADUATE STUDENTS INVOLVED IN MANUFACTURING, ENGINEERING, AND SYSTEM AND PRODUCT DEVELOPMENT.

DATA SCIENCE AND COMPUTATIONAL INTELLIGENCE - K. R. VENUGOPAL 2021

THIS BOOK CONSTITUTES REVISED AND SELECTED PAPERS FROM THE SIXTEENTH INTERNATIONAL CONFERENCE ON INFORMATION PROCESSING, ICINPro 2021, HELD IN BANGALURU, INDIA IN OCTOBER 2021. THE 33 FULL AND 9 SHORT PAPERS PRESENTED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM A TOTAL OF 177 SUBMISSIONS. THE PAPERS ARE ORGANIZED IN THE FOLLOWING THEMATIC BLOCKS: COMPUTING & NETWORK SECURITY; DATA SCIENCE; INTELLIGENCE & IoT.

MACHINE INTELLIGENCE AND BIG DATA ANALYTICS FOR CYBERSECURITY APPLICATIONS - YASSINE MALEH 2020-12-14

THIS BOOK PRESENTS THE LATEST ADVANCES IN MACHINE INTELLIGENCE AND BIG DATA ANALYTICS TO IMPROVE EARLY WARNING OF CYBER-ATTACKS, FOR CYBERSECURITY INTRUSION DETECTION AND MONITORING, AND MALWARE ANALYSIS. CYBER-ATTACKS HAVE POSED REAL AND WIDE-RANGING THREATS FOR THE INFORMATION SOCIETY. DETECTING CYBER-ATTACKS BECOMES A CHALLENGE, NOT ONLY BECAUSE OF THE SOPHISTICATION OF ATTACKS BUT ALSO BECAUSE OF THE LARGE SCALE AND COMPLEX NATURE OF TODAY'S IT INFRASTRUCTURES. IT DISCUSSES NOVEL TRENDS AND ACHIEVEMENTS IN MACHINE INTELLIGENCE AND THEIR ROLE IN THE DEVELOPMENT OF SECURE SYSTEMS AND IDENTIFIES OPEN AND FUTURE RESEARCH ISSUES RELATED TO THE APPLICATION OF MACHINE INTELLIGENCE IN THE CYBERSECURITY FIELD. BRIDGING AN IMPORTANT GAP BETWEEN MACHINE INTELLIGENCE, BIG DATA, AND CYBERSECURITY COMMUNITIES, IT ASPIRES TO PROVIDE A RELEVANT REFERENCE FOR STUDENTS, RESEARCHERS, ENGINEERS, AND PROFESSIONALS WORKING IN THIS AREA OR THOSE INTERESTED IN GRASPING ITS DIVERSE FACETS AND EXPLORING THE LATEST ADVANCES ON MACHINE INTELLIGENCE AND BIG DATA ANALYTICS FOR CYBERSECURITY APPLICATIONS.

SAFETY AND RELIABILITY – SAFE SOCIETIES IN A CHANGING WORLD - STEIN HAUGEN 2018-06-15

SAFETY AND RELIABILITY – SAFE SOCIETIES IN A CHANGING WORLD COLLECTS THE PAPERS PRESENTED AT THE 28TH EUROPEAN SAFETY AND RELIABILITY CONFERENCE, ESREL 2018 IN TRONDHEIM, NORWAY, JUNE 17-21, 2018. THE CONTRIBUTIONS COVER A WIDE RANGE OF METHODOLOGIES AND APPLICATION AREAS FOR SAFETY AND RELIABILITY THAT CONTRIBUTE TO SAFE SOCIETIES IN A CHANGING WORLD. THESE METHODOLOGIES AND APPLICATIONS INCLUDE: - FOUNDATIONS OF RISK AND RELIABILITY ASSESSMENT AND MANAGEMENT - MATHEMATICAL METHODS IN RELIABILITY AND SAFETY - RISK ASSESSMENT - RISK MANAGEMENT - SYSTEM RELIABILITY - UNCERTAINTY ANALYSIS - DIGITALIZATION AND BIG DATA - PROGNOSTICS AND SYSTEM HEALTH MANAGEMENT - OCCUPATIONAL SAFETY - ACCIDENT AND INCIDENT MODELING - MAINTENANCE MODELING AND APPLICATIONS - SIMULATION FOR SAFETY AND RELIABILITY ANALYSIS - DYNAMIC RISK AND BARRIER MANAGEMENT - ORGANIZATIONAL FACTORS AND SAFETY CULTURE - HUMAN FACTORS AND HUMAN RELIABILITY - RESILIENCE ENGINEERING - STRUCTURAL RELIABILITY - NATURAL HAZARDS - SECURITY - ECONOMIC ANALYSIS IN RISK MANAGEMENT SAFETY AND RELIABILITY – SAFE SOCIETIES IN A CHANGING WORLD WILL BE INVALUABLE TO ACADEMICS AND PROFESSIONALS WORKING IN A WIDE RANGE OF INDUSTRIAL AND GOVERNMENTAL SECTORS: OFFSHORE OIL AND GAS, NUCLEAR ENGINEERING, AERONAUTICS AND AEROSPACE, MARINE TRANSPORT AND ENGINEERING, RAILWAYS, ROAD TRANSPORT, AUTOMOTIVE ENGINEERING, CIVIL ENGINEERING, CRITICAL INFRASTRUCTURES, ELECTRICAL AND ELECTRONIC ENGINEERING, ENERGY PRODUCTION AND DISTRIBUTION, ENVIRONMENTAL ENGINEERING, INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS, INSURANCE AND FINANCE, MANUFACTURING, MARINE TRANSPORT, MECHANICAL ENGINEERING, SECURITY AND PROTECTION, AND POLICY MAKING.

DEEP LEARNING TECHNIQUES AND OPTIMIZATION STRATEGIES IN BIG DATA ANALYTICS - THOMAS, J. JOSHUA 2019-11-29

MANY APPROACHES HAVE SPROUTED FROM ARTIFICIAL INTELLIGENCE (AI) AND PRODUCED MAJOR BREAKTHROUGHS IN THE COMPUTER SCIENCE AND ENGINEERING INDUSTRIES. DEEP LEARNING IS A METHOD THAT IS TRANSFORMING THE WORLD OF DATA AND ANALYTICS. OPTIMIZATION OF THIS NEW APPROACH IS STILL UNCLEAR, HOWEVER, AND THERE'S A NEED FOR RESEARCH ON THE VARIOUS APPLICATIONS AND TECHNIQUES OF DEEP LEARNING IN THE FIELD OF COMPUTING. DEEP LEARNING TECHNIQUES AND OPTIMIZATION STRATEGIES IN BIG DATA ANALYTICS IS A COLLECTION OF INNOVATIVE RESEARCH ON THE METHODS AND APPLICATIONS OF DEEP LEARNING STRATEGIES IN THE FIELDS OF COMPUTER SCIENCE AND INFORMATION SYSTEMS. WHILE HIGHLIGHTING TOPICS INCLUDING DATA INTEGRATION, COMPUTATIONAL MODELING, AND SCHEDULING SYSTEMS, THIS BOOK IS IDEALLY DESIGNED FOR ENGINEERS, IT SPECIALISTS, DATA ANALYSTS, DATA SCIENTISTS, ENGINEERS, RESEARCHERS, ACADEMICIANS, AND STUDENTS SEEKING CURRENT RESEARCH ON DEEP LEARNING METHODS AND ITS APPLICATION IN THE DIGITAL INDUSTRY.

AETA 2017 - RECENT ADVANCES IN ELECTRICAL ENGINEERING AND RELATED SCIENCES: THEORY AND APPLICATION - VO HOANG DUY 2017-11-10

THIS PROCEEDINGS BOOK GATHERS PAPERS PRESENTED AT THE 4TH INTERNATIONAL CONFERENCE ON ADVANCED ENGINEERING THEORY AND APPLICATIONS 2017 (AETA 2017), HELD ON 7-9 DECEMBER 2017 AT Ton Duc Thang University, Ho Chi Minh City, VIETNAM. IT PRESENTS SELECTED PAPERS ON 13 TOPICAL AREAS, INCLUDING ROBOTICS, CONTROL SYSTEMS, TELECOMMUNICATIONS,

COMPUTER SCIENCE AND MORE. ALL SELECTED PAPERS REPRESENT INTERESTING IDEAS AND COLLECTIVELY PROVIDE A STATE-OF-THE-ART OVERVIEW. READERS WILL FIND INTRIGUING PAPERS ON THE DESIGN AND IMPLEMENTATION OF CONTROL ALGORITHMS FOR AERIAL AND UNDERWATER ROBOTS, FOR MECHANICAL SYSTEMS, EFFICIENT PROTOCOLS FOR VEHICULAR AD HOC NETWORKS, MOTOR CONTROL, IMAGE AND SIGNAL PROCESSING, ENERGY SAVING, OPTIMIZATION METHODS IN VARIOUS FIELDS OF ELECTRICAL ENGINEERING, AND OTHERS. THE BOOK ALSO OFFERS A VALUABLE RESOURCE FOR PRACTITIONERS WHO WANT TO APPLY THE CONTENT DISCUSSED TO SOLVE REAL-LIFE PROBLEMS IN THEIR CHALLENGING APPLICATIONS. IT ALSO ADDRESSES COMMON AND RELATED SUBJECTS IN MODERN ELECTRIC, ELECTRONIC AND RELATED TECHNOLOGIES. AS SUCH, IT WILL BENEFIT ALL SCIENTISTS AND ENGINEERS WORKING IN THE ABOVE-MENTIONED FIELDS OF APPLICATION.

GREEN INTERNET OF THINGS AND MACHINE LEARNING - ROSHANI RAUT 2022-01-10

HEALTH ECONOMICS AND FINANCING ENCAPSULATES DIFFERENT CASE STUDIES WHERE GREEN-IOT AND MACHINE LEARNING CAN BE USED FOR MAKING SIGNIFICANT PROGRESS TOWARDS IMPROVING THE QUALITY OF LIFE AND SUSTAINABLE ENVIRONMENT. THE INTERNET OF THINGS (IoT) IS AN EVOLVING IDEA WHICH IS RESPONSIBLE FOR CONNECTING BILLIONS OF DEVICES THAT ACQUIRE, PERCEIVE, AND COMMUNICATE DATA FROM THEIR SURROUNDINGS. BECAUSE THIS TRANSMISSION OF DATA USES SIGNIFICANT ENERGY, IMPROVING ENERGY EFFICIENCY IN IOT DEVICES IS A SIGNIFICANT TOPIC FOR RESEARCH. THE GREEN INTERNET OF THINGS (G-IoT) MAKES IT POSSIBLE FOR IOT DEVICES TO USE LESS ENERGY SINCE INTELLIGENT PROCESSING AND ANALYSIS ARE FUNDAMENTAL TO CONSTRUCTING SMART IOT APPLICATIONS WITH LARGE DATA SETS. MACHINE LEARNING (ML) ALGORITHMS THAT CAN PREDICT SUSTAINABLE ENERGY CONSUMPTION CAN BE USED TO PREPARE GUIDELINES TO MAKE IoT DEVICE IMPLEMENTATION EASIER. GREEN INTERNET OF THINGS AND MACHINE LEARNING LAYS THE FOUNDATION OF IN-DEPTH ANALYSIS OF PRINCIPLES OF GREEN-INTERNET OF THINGS (G-IoT) USING MACHINE LEARNING. IT OUTLINES VARIOUS GREEN ICT TECHNOLOGIES, EXPLORES THE POTENTIAL TOWARDS DIVERSE REAL-TIME AREAS, AS WELL AS HIGHLIGHTING VARIOUS CHALLENGES AND OBSTACLES TOWARDS THE IMPLEMENTATION OF G-IoT IN THE REAL WORLD. ALSO, THIS BOOK PROVIDES INSIGHTS ON HOW THE MACHINE LEARNING AND GREEN IOT WILL IMPACT VARIOUS APPLICATIONS: IT COVERS THE GREEN-IOT AND ML-BASED SMART COMPUTING, ML TECHNIQUES FOR REDUCING ENERGY CONSUMPTION IN IOT DEVICES, CASE STUDIES OF G-IOT AND ML IN THE AGRICULTURAL FIELD, SMART FARMING, SMART TRANSPORTATION, BANKING INDUSTRY AND HEALTHCARE. AUDIENCE THE BOOK WILL BE HELPFUL FOR RESEARCH SCHOLARS AND RESEARCHERS IN THE FIELDS OF COMPUTER SCIENCE AND ENGINEERING, INFORMATION TECHNOLOGY, ELECTRONICS AND ELECTRICAL ENGINEERING. INDUSTRY EXPERTS, PARTICULARLY IN R&D DIVISIONS, CAN USE THIS BOOK AS THEIR PROBLEM-SOLVING GUIDE.

ENERGY-EFFICIENT COMPUTING AND DATA CENTERS - LUIGI BROCHARD 2019-09-11

DATA CENTERS CONSUME ROUGHLY 1% OF THE TOTAL ELECTRICITY DEMAND, WHILE ICT AS A WHOLE CONSUMES AROUND 10%. DEMAND IS GROWING EXPONENTIALLY AND, LEFT UNCHECKED, WILL GROW TO AN ESTIMATED INCREASE OF 20% OR MORE BY 2030. THIS BOOK COVERS THE ENERGY CONSUMPTION AND MINIMIZATION OF THE DIFFERENT DATA CENTER COMPONENTS WHEN RUNNING REAL WORKLOADS, TAKING INTO ACCOUNT THE TYPES OF INSTRUCTIONS EXECUTED BY THE SERVERS. IT PRESENTS THE DIFFERENT AIR- AND LIQUID-COOLED TECHNOLOGIES FOR SERVERS AND DATA CENTERS WITH SOME REAL EXAMPLES, INCLUDING WASTE HEAT REUSE THROUGH ADSORPTION CHILLERS, AS WELL AS THE HARDWARE AND SOFTWARE USED TO MEASURE, MODEL AND CONTROL ENERGY. IT COMPUTES AND COMPARES THE POWER USAGE EFFECTIVENESS AND THE TOTAL COST OF OWNERSHIP OF NEW AND EXISTING DATA CENTERS WITH DIFFERENT COOLING DESIGNS, INCLUDING FREE COOLING AND WASTE HEAT REUSE LEADING TO THE ENERGY REUSE EFFECTIVENESS. THE BOOK CONCLUDES BY DEMONSTRATING HOW A WELL-DESIGNED DATA CENTER REUSING WASTE HEAT TO PRODUCE CHILLED WATER CAN REDUCE ENERGY CONSUMPTION BY ROUGHLY 50%, AND HOW RENEWABLE ENERGY CAN BE USED TO CREATE NET-ZERO ENERGY DATA CENTERS.

DISTRIBUTED MACHINE LEARNING AND GRADIENT OPTIMIZATION - JIAWEI JIANG 2022

THIS BOOK PRESENTS THE STATE OF THE ART IN DISTRIBUTED MACHINE LEARNING ALGORITHMS THAT ARE BASED ON GRADIENT OPTIMIZATION METHODS. IN THE BIG DATA ERA, LARGE-SCALE DATASETS POSE ENORMOUS CHALLENGES FOR THE EXISTING MACHINE LEARNING SYSTEMS. AS SUCH, IMPLEMENTING MACHINE LEARNING ALGORITHMS IN A DISTRIBUTED ENVIRONMENT HAS BECOME A KEY TECHNOLOGY, AND RECENT RESEARCH HAS SHOWN GRADIENT-BASED ITERATIVE OPTIMIZATION TO BE AN EFFECTIVE SOLUTION. FOCUSING ON METHODS THAT CAN SPEED UP LARGE-SCALE GRADIENT OPTIMIZATION THROUGH BOTH ALGORITHM OPTIMIZATIONS AND CAREFUL SYSTEM IMPLEMENTATIONS, THE BOOK INTRODUCES THREE ESSENTIAL TECHNIQUES IN DESIGNING A GRADIENT OPTIMIZATION ALGORITHM TO TRAIN A DISTRIBUTED MACHINE LEARNING MODEL: PARALLEL STRATEGY, DATA COMPRESSION AND SYNCHRONIZATION PROTOCOL. WRITTEN IN A TUTORIAL STYLE, IT COVERS A RANGE OF TOPICS, FROM FUNDAMENTAL KNOWLEDGE TO A NUMBER OF CAREFULLY DESIGNED ALGORITHMS AND SYSTEMS OF DISTRIBUTED MACHINE LEARNING. IT WILL APPEAL TO A BROAD AUDIENCE IN THE FIELD OF MACHINE LEARNING, ARTIFICIAL INTELLIGENCE, BIG DATA AND DATABASE MANAGEMENT.

- EPHRAIM M. SPARROW 2018-11-07

ADVANCES IN HEAT TRANSFER, VOLUME 50, PROVIDES IN-DEPTH REVIEW ARTICLES FROM A BROADER SCOPE THAN IN TRADITIONAL JOURNALS OR TEXTS, WITH THIS COMPREHENSIVE RELEASE COVERING CHAPTERS ON HEAT TRANSFER IN ROTATING CHANNELS, ADVANCES IN LIQUID METAL SCIENCE AND TECHNOLOGY IN CHIP COOLING AND THERMAL MANAGEMENT, HEAT TRANSFER IN ROTATING COOLING CHANNEL, ANOMALOUS HEAT TRANSFER: EXAMPLES, FUNDAMENTALS, AND FRACTIONAL CALCULUS MODELS, AND MUCH MORE. FILLS THE INFORMATION GAP BETWEEN REGULARLY SCHEDULED JOURNALS AND UNIVERSITY-LEVEL TEXTBOOKS BY PROVIDING IN-DEPTH REVIEW ARTICLES OVER A BROADER SCOPE THAN IN TRADITIONAL JOURNALS OR TEXTS ESSENTIAL READING FOR ALL MECHANICAL, CHEMICAL AND INDUSTRIAL ENGINEERS WORKING IN THE FIELD OF HEAT TRANSFER, OR IN GRADUATE SCHOOLS OR INDUSTRY