

TWO VOLUME SETTINGS 9827 AND LNCS 9828 CONSTITUTES THE REFERRED PROCEEDINGS OF THE 27th INTERNATIONAL CONFERENCE ON DATABASE AND EXPERT SYSTEMS APPLICATIONS, DEXA 2016, HELD IN PORTO PORTUGAL, SEPTEMBER 2016. (THE 99 REVISED FULL PAPERS PRESENTED TOGETHER WITH 29 SHORT PAPERS WERE CAREFULLY REVIEWED AND SELECTED FROM 137 SUBMISSIONS. THE PAPERS DISCUSS A RANGE OF TOPICS INCLUDING: TEMPORAL, SPATIAL, AND HIGH-DIMENSIONAL DATABASES; DATA MINING; AUTHENTICITY, PRIVACY, SECURITY AND TRUST; 2021 CLUSTERING; DISTRIBUTED AND BIG DATA PROCESSING; DECISION SUPPORT SYSTEMS, AND LEARNING; DATA STREAMS; DATA INTEGRATION, AND INTEROPERABILITY SEMANTIC WEB AND DATA SEMANTICS; SOCIAL NETWORKS, AND NETWORK ANALYSIS LINKED DATA; DATA ANALYSIS; NoSQL, NEW SQL, MULTIMEDIA DATA PERSONAL INFORMATION MANAGEMENT; SEMANTIC WEB AND ONTOLOGIES; DATABASE AND INFORMATION SYSTEM ARCHITECTURES; QUERY ANSWERING AND OPTIMIZATION; INFORMATION RETRIEVAL AND KEYWORD EXTRACT DATA MODELLING, AND UNCE 2020-06-25

HANDBOOK OF DATA STRUCTURES AND APPLICATIONS DINESH MEHTA 2018-02-21
THE HANDBOOK OF DATA STRUCTURES AND APPLICATIONS WAS FIRST PUBLISHED OVER A DECADE AGO. THIS SECOND EDITION AIMS TO UPDATE THE FIRST BY FOCUSING ON AREAS OF RESEARCH IN DATA STRUCTURES THAT HAVE BEEN SIGNIFICANT PROGRESS. WHILE THE DISCIPLINE OF DATA STRUCTURES HAS NOT MATURED AS RAPIDLY AS OTHER AREAS OF COMPUTER SCIENCE, THE BOOK AIMS TO UPDATE THOSE AREAS THAT HAVE SEEN ADVANCES. RETAINING THE SEVEN-PART STRUCTURE OF THE FIRST EDITION, THE HANDBOOK BEGINS WITH A PREVIEW OF INTRODUCTORY MATERIAL, FOLLOWED BY A DISCUSSION OF WELL-KNOWN CLASSES OF DATA STRUCTURES, PRIORITY QUEUES, DICTIONARY STRUCTURES, AND MULTIDIMENSIONAL STRUCTURES. THE EDITORS NEXT ANALYZE MISCELLANEOUS DATA STRUCTURES, WHICH ARE WELL-KNOWN STRUCTURES THAT ELUDE EASY CLASSIFICATION. THE BOOK THEN ADDRESSES MECHANISMS AND TOOLS THAT WERE DEVELOPED TO FACILITATE THE USE OF DATA STRUCTURES IN REAL PROGRAMS. IT CONCLUDES WITH AN EXAMINATION OF THE APPLICATIONS OF DATA STRUCTURES. FOUR NEW CHAPTERS HAVE BEEN ADDED ON BLOOM FILTERS, BINARY DECISION DIAGRAMS, DATA STRUCTURES FOR CHEMIFORMATICS, AND DATA STRUCTURES FOR BIG DATA STORES, AND UPDATES HAVE BEEN MADE TO OTHER CHAPTERS THAT APPEARED IN THE FIRST EDITION. THE HANDBOOK IS INVALUABLE FOR SUGGESTING NEW IDEAS FOR RESEARCH IN DATA STRUCTURES, AND FOR REVEALING APPLICATION CONTEXTS IN WHICH THEY CAN BE DEPLOYED. PRACTITIONERS DEVISING ALGORITHMS WILL GAIN INSIGHT INTO ORGANIZING DATA, ALLOWING THEM TO SOLVE ALGORITHMIC PROBLEMS MORE EFFICIENTLY.

REACHABILITY PROBLEMS JOEL OUAKNINE 2014-09-15 THIS BOOK CONSTITUTES THE PROCEEDINGS OF THE 8TH INTERNATIONAL WORKSHOP ON REACHABILITY PROBLEMS, RP 2014, HELD IN OXFORD, UK, IN SEPTEMBER 2014. THE 17 PAPERS PRESENTED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM 25 SUBMISSIONS. THE BOOK ALSO CONTAINS A PAPER SUMMARIZING THE INVITED TALK. THE PAPERS OFFER NEW APPROACHES FOR THE MODELLING AND ANALYSIS OF COMPUTATIONAL PROCESSES BY COMBINING MATHEMATICAL, ALGORITHMIC, AND COMPUTATIONAL TECHNIQUES.

COMBINATORIAL OPTIMIZATION AND APPLICATIONS WEILI WU 2020-12-04 THIS VOLUME CONSTITUTES THE PROCEEDINGS OF THE 14TH INTERNATIONAL CONFERENCE ON COMBINATORIAL OPTIMIZATION AND APPLICATIONS, COCOA 2020, HELD IN DALLAS, TX, USA, IN DECEMBER 2020. THE 55 FULL PAPERS PRESENTED IN THIS VOLUME WERE CAREFULLY REVIEWED AND SELECTED FROM 104 SUBMISSIONS. THE PAPERS ARE GROUPED INTO THE FOLLOWING TOPICS: APPROXIMATION ALGORITHMS; SCHEDULING; NETWORK OPTIMIZATION; COMPLEXITY AND LOGIC; SEARCH, FACILITY AND GRAPHS; GEOMETRIC PROBLEM; SENSORS, VEHICLES AND GRAPHS; AND GRAPH PROBLEMS. DUE TO THE CORONA PANDEMIC THIS EVENT WAS HELD VIRTUALLY.

DATABASE AND EXPERT SYSTEMS APPLICATIONS SVEN HARTMANN 2016-08-05 THIS

ALONG WITH A QUITE INEFFICIENT SEARCH. THIS BOOK DISCUSSES THE SUITABILITY OF GENETIC ALGORITHMS FOR PRODUCTION SCHEDULING AND PRESENTS AN APPROACH WHICH PRODUCES RESULTS COMPARABLE WITH THOSE OF MORE TAILORED OPTIMIZATION TECHNIQUES.

INCLUSIVE DEVELOPMENT OF SOCIETY FORD LUMBAN GAOL 2020-06-02 INCLUSIVE DEVELOPMENT OF SOCIETY CONTAINS PAPERS THAT WERE ORIGINALLY PRESENTED AT THE 2018 INTERNATIONAL CONGRESS ON MANAGEMENT AND TECHNOLOGY IN KNOWLEDGE, SERVICE, TOURISM & HOSPITALITY (SERVE 2018), HELD 6-7 OCTOBER AND 15-16 DECEMBER 2018 IN KUTA, BALI, INDONESIA AND 18-19 OCTOBER, 2018 AT THE SOUTHERN FEDERAL UNIVERSITY, ROSTOV-ON-DON, RUSSIA. THE CONTRIBUTIONS DEAL WITH VARIOUS INTERDISCIPLINARY RESEARCH TOPICS, PARTICULARLY IN THE FIELDS OF SOCIAL SCIENCES, ECONOMICS AND THE ARTS. THE PAPERS FOCUS ESPECIALLY ON SUCH TOPICS AS LANGUAGE, CULTURAL STUDIES, ECONOMICS, BEHAVIOR STUDIES, POLITICAL SCIENCES, MEDIA AND COMMUNICATION, PSYCHOLOGY AND HUMAN DEVELOPMENT. THE THEORETICAL RESEARCH STUDIES INCLUDED HERE SHOULD PROVIDE A SOLID FOUNDATION FOR THE DEVELOPMENT OF NEW TOOLS THAT EXPLORE THE POSSIBILITIES OF DEVELOPING TOURISM, HOSPITALITY, SERVICE INDUSTRIES IN KNOWLEDGE ECONOMIC ERA, AND THE EMPIRICAL PAPERS WILL ADVANCE OUR KNOWLEDGE REGARDING THE IMPACT OF INFORMATION TECHNOLOGIES IN ORGANIZATIONS' AND INSTITUTIONS' PRACTICES. THESE PROCEEDINGS SHOULD BE OF INTEREST TO ACADEMICS AND PROFESSIONALS IN THE WIDER FIELD OF SOCIAL SCIENCES, INCLUDING DISCIPLINES SUCH AS EDUCATION, PSYCHOLOGY, TOURISM AND KNOWLEDGE MANAGEMENT.

HANDBOOK ON THEORETICAL AND ALGORITHMIC ASPECTS OF SENSOR, AD HOC WIRELESS, AND PEER-TO-PEER NETWORKS JIE WU 2005-08-08 THE AVAILABILITY OF CHEAPER, FASTER, AND MORE RELIABLE ELECTRONIC COMPONENTS HAS STIMULATED IMPORTANT ADVANCES IN COMPUTING AND COMMUNICATION TECHNOLOGIES. THEORETICAL AND ALGORITHMIC APPROACHES THAT ADDRESS KEY ISSUES IN SENSOR NETWORKS, AD HOC WIRELESS NETWORKS, AND PEER-TO-PEER NETWORKS PLAY A CENTRAL ROLE IN THE DEVELOPMENT OF EMERGING NETWORK

ALGORITHMS - ESA 2000 MIKE PATERSON 2003-07-31 THIS BOOK CONSTITUTES THE REFEREED PROCEEDINGS OF THE 8TH ANNUAL EUROPEAN SYMPOSIUM ON ALGORITHMS, ESA 2000, HELD IN SAARBRÜCKEN, GERMANY IN SEPTEMBER 2000. THE 39 REVISED FULL PAPERS PRESENTED TOGETHER WITH TWO INVITED PAPERS WERE CAREFULLY REVIEWED AND SELECTED FOR INCLUSION IN THE BOOK. AMONG THE TOPICS ADDRESSED ARE PARALLELISM, DISTRIBUTED SYSTEMS, APPROXIMATION, COMBINATORIAL OPTIMIZATION, COMPUTATIONAL BIOLOGY, COMPUTATIONAL GEOMETRY, EXTERNAL-MEMORY ALGORITHMS, GRAPH ALGORITHMS, NETWORK ALGORITHMS, ONLINE ALGORITHMS, DATA COMPRESSION, SYMBOLIC COMPUTATION, PATTERN MATCHING, AND RANDOMIZED ALGORITHMS.

INTELLIGENT INFORMATION AND DATABASE SYSTEMS NGOC-THANH NGUYEN 2016-03-08 THE TWO-VOLUME PROCEEDINGS OF THE ACIIIDS 2016 CONFERENCE, LNAI 9621 +

9622, CONSTITUTES THE REFEREED PROCEEDINGS OF THE 8TH ASIAN CONFERENCE ON INTELLIGENT INFORMATION AND DATABASE SYSTEMS, HELD IN DA NANG, VIETNAM, IN MARCH 2016. THE TOTAL OF 153 FULL PAPERS ACCEPTED FOR PUBLICATION IN THESE PROCEEDINGS WAS CAREFULLY REVIEWED AND SELECTED FROM 392 SUBMISSIONS. THEY WERE ORGANIZED IN TOPICAL SECTIONS NAMED: KNOWLEDGE ENGINEERING AND SEMANTIC WEB; SOCIAL NETWORKS AND RECOMMENDER SYSTEMS; TEXT PROCESSING AND INFORMATION RETRIEVAL; DATABASE SYSTEMS AND SOFTWARE ENGINEERING; INTELLIGENT INFORMATION SYSTEMS; DECISION SUPPORT AND CONTROL SYSTEMS; MACHINE LEARNING AND DATA MINING; COMPUTER VISION TECHNIQUES; INTELLIGENT BIG DATA EXPLOITATION; CLOUD AND NETWORK COMPUTING; MULTIPLE MODEL APPROACH TO MACHINE LEARNING; ADVANCED DATA MINING TECHNIQUES AND APPLICATIONS; COMPUTATIONAL INTELLIGENCE IN DATA MINING FOR COMPLEX PROBLEMS; COLLECTIVE INTELLIGENCE FOR SERVICE INNOVATION, TECHNOLOGY OPPORTUNITY, E-LEARNING, AND FUZZY INTELLIGENT SYSTEMS; ANALYSIS FOR IMAGE, VIDEO AND MOTION DATA IN LIFE SCIENCES; REAL WORLD APPLICATIONS IN ENGINEERING AND TECHNOLOGY; ONTOLOGY-BASED SOFTWARE DEVELOPMENT; INTELLIGENT AND CONTEXT SYSTEMS; MODELING AND OPTIMIZATION TECHNIQUES IN INFORMATION SYSTEMS, DATABASE SYSTEMS AND INDUSTRIAL SYSTEMS; SMART PATTERN PROCESSING FOR SPORTS; AND INTELLIGENT SERVICES FOR SMART CITIES.

HANDBOOK OF CONSTRAINT PROGRAMMING FRANCESCA ROSSI 2006-08-18 CONSTRAINT PROGRAMMING IS A POWERFUL PARADIGM FOR SOLVING COMBINATORIAL SEARCH PROBLEMS THAT DRAWS ON A WIDE RANGE OF TECHNIQUES FROM ARTIFICIAL INTELLIGENCE, COMPUTER SCIENCE, DATABASES, PROGRAMMING LANGUAGES, AND OPERATIONS RESEARCH. CONSTRAINT PROGRAMMING IS CURRENTLY APPLIED WITH SUCCESS TO MANY DOMAINS, SUCH AS SCHEDULING, PLANNING, VEHICLE ROUTING, CONFIGURATION, NETWORKS, AND BIOINFORMATICS. THE AIM OF THIS HANDBOOK IS TO CAPTURE THE FULL BREADTH AND DEPTH OF THE CONSTRAINT PROGRAMMING FIELD AND TO BE ENCYCLOPEDIA IN ITS SCOPE AND COVERAGE. WHILE THERE ARE SEVERAL EXCELLENT BOOKS ON CONSTRAINT PROGRAMMING, SUCH BOOKS NECESSARILY FOCUS ON THE MAIN NOTIONS AND TECHNIQUES AND CANNOT COVER ALSO EXTENSIONS, APPLICATIONS, AND LANGUAGES. THE HANDBOOK GIVES A REASONABLY COMPLETE COVERAGE OF ALL THESE LINES OF WORK, BASED ON CONSTRAINT PROGRAMMING, SO THAT A READER CAN HAVE A RATHER PRECISE IDEA OF THE WHOLE FIELD AND ITS POTENTIAL. OF COURSE EACH LINE OF WORK IS DEALT WITH IN A SURVEY-LIKE STYLE, WHERE SOME DETAILS MAY BE NEGLECTED IN FAVOR OF COVERAGE. HOWEVER, THE EXTENSIVE BIBLIOGRAPHY OF EACH CHAPTER WILL HELP THE INTERESTED READERS TO FIND SUITABLE SOURCES FOR THE MISSING DETAILS. EACH CHAPTER OF THE HANDBOOK IS INTENDED TO BE A SELF-CONTAINED SURVEY OF A TOPIC, AND IS WRITTEN BY ONE OR MORE AUTHORS WHO ARE LEADING RESEARCHERS IN THE AREA. THE INTENDED AUDIENCE OF THE HANDBOOK IS RESEARCHERS, GRADUATE STUDENTS, HIGHER-YEAR UNDERGRADUATES AND PRACTITIONERS WHO WISH TO LEARN ABOUT THE STATE-OF-THE-ART IN CONSTRAINT PROGRAMMING. NO PRIOR KNOWLEDGE ABOUT THE FIELD IS NECESSARY TO BE ABLE TO READ THE CHAPTERS AND

GATHER USEFUL KNOWLEDGE. RESEARCHERS FROM OTHER FIELDS SHOULD FIND IN THIS HANDBOOK AN EFFECTIVE WAY TO LEARN ABOUT CONSTRAINT PROGRAMMING AND TO POSSIBLY USE SOME OF THE CONSTRAINT PROGRAMMING CONCEPTS AND TECHNIQUES IN THEIR WORK, THUS PROVIDING A MEANS FOR A FRUITFUL CROSS-FERTILIZATION AMONG DIFFERENT RESEARCH AREAS. THE HANDBOOK IS ORGANIZED IN TWO PARTS. THE FIRST PART COVERS THE BASIC FOUNDATIONS OF CONSTRAINT PROGRAMMING, INCLUDING THE HISTORY, THE NOTION OF CONSTRAINT PROPAGATION, BASIC SEARCH METHODS, GLOBAL CONSTRAINTS, TRACTABILITY AND COMPUTATIONAL COMPLEXITY, AND IMPORTANT ISSUES IN MODELING A PROBLEM AS A CONSTRAINT PROBLEM. THE SECOND PART COVERS CONSTRAINT LANGUAGES AND SOLVER, SEVERAL USEFUL EXTENSIONS TO THE BASIC FRAMEWORK (SUCH AS INTERVAL CONSTRAINTS, STRUCTURED DOMAINS, AND DISTRIBUTED CSPs), AND SUCCESSFUL APPLICATION AREAS FOR CONSTRAINT PROGRAMMING. - COVERS THE WHOLE FIELD OF CONSTRAINT PROGRAMMING - SURVEY-STYLE CHAPTERS - FIVE CHAPTERS ON APPLICATIONS

HANDBOOK OF COMPUTATIONAL MOLECULAR BIOLOGY SRINIVAS ALURU 2005-12-21

THE ENORMOUS COMPLEXITY OF BIOLOGICAL SYSTEMS AT THE MOLECULAR LEVEL MUST BE ANSWERED WITH POWERFUL COMPUTATIONAL METHODS. COMPUTATIONAL BIOLOGY IS A YOUNG FIELD, BUT HAS SEEN RAPID GROWTH AND ADVANCEMENT OVER THE PAST FEW DECADES. SURVEYING THE PROGRESS MADE IN THIS MULTIDISCIPLINARY FIELD, THE HANDBOOK OF COMPUTATIONAL MOLECULAR BIOLOGY OF

SCIENTIFIC AND TECHNICAL REVOLUTION: YESTERDAY, TODAY AND TOMORROW ELENA G. POPKOVA 2020-06-05 THIS BOOK PRESENTS A SYSTEM VIEW OF THE DIGITAL SCIENTIFIC AND TECHNOLOGICAL REVOLUTION, INCLUDING ITS GENESIS AND PREREQUISITES, CURRENT TRENDS, AS WELL AS CURRENT AND POTENTIAL ISSUES AND FUTURE PROSPECTS. IT GATHERS SELECTED RESEARCH PAPERS PRESENTED AT THE 12TH INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE, ORGANIZED BY THE INSTITUTE OF SCIENTIFIC COMMUNICATIONS. THE CONFERENCE "ARTIFICIAL INTELLIGENCE: ANTHROPOGENIC NATURE VS. SOCIAL ORIGIN" TOOK PLACE ON DECEMBER 5-7, 2019 IN KRASNOYARSK, RUSSIA. THE BOOK IS INTENDED FOR ACADEMIC RESEARCHERS AND INDEPENDENT EXPERTS STUDYING THE SOCIAL AND HUMAN ASPECTS OF THE FOURTH INDUSTRIAL REVOLUTION AND THE ASSOCIATED TRANSITION TO THE DIGITAL ECONOMY AND INDUSTRY 4.0, AS WELL AS THE CREATORS OF THE LEGAL FRAMEWORK FOR THIS PROCESS AND ITS PARTICIPANTS - ENTREPRENEURS, MANAGERS, EMPLOYEES AND CONSUMERS. IT COVERS A VARIETY OF TOPICS, INCLUDING "INTELLIGENT" TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE, THE DIGITAL ECONOMY, THE SOCIAL ENVIRONMENT OF THE FOURTH INDUSTRIAL REVOLUTION AND ITS CONSEQUENCES FOR HUMANS, THE REGULATORY FRAMEWORK OF THE FOURTH INDUSTRIAL REVOLUTION, AND THE "GREEN" CONSEQUENCES, PROSPECTS AND FINANCING OF THE FOURTH INDUSTRIAL REVOLUTION.

FOR FURTHER RESEARCH, AND BY OFFERING FURTHER READINGS AND FUTURE DIRECTIONS OF RESEARCH IN THIS IMPORTANT AND GROWING AREA

1990

FUTURE DATA AND SECURITY ENGINEERING TRAN KHANH DANG 2016-11-02 THIS BOOK CONSTITUTES THE REFEREED PROCEEDINGS OF THE THIRD INTERNATIONAL CONFERENCE ON FUTURE DATA AND SECURITY ENGINEERING, FDSE 2016, HELD IN CAN THO CITY, VIETNAM, IN NOVEMBER 2016. THE 27 REVISED FULL PAPERS AND 2 SHORT PAPERS PRESENTED WERE CAREFULLY REVIEWED AND SELECTED FROM 115 SUBMISSIONS. THEY HAVE BEEN ORGANIZED IN THE FOLLOWING TOPICAL SECTIONS: BIG DATA ANALYTICS AND CLOUD DATA MANAGEMENT; INTERNET OF THINGS AND APPLICATIONS; SECURITY AND PRIVACY ENGINEERING; DATA PROTECTION AND DATA HIDING; ADVANCES IN AUTHENTICATION AND DATA ACCESS CONTROL; ACCESS CONTROL IN NOSQL AND BIG DATA; CONTEXT-BASED DATA ANALYSIS AND APPLICATIONS; EMERGING DATA MANAGEMENT SYSTEMS AND APPLICATIONS.

A PRACTICAL GUIDE TO DATA STRUCTURES AND ALGORITHMS USING JAVA SALLY. A GOLDMAN 2007-08-23 ALTHOUGH TRADITIONAL TEXTS PRESENT ISOLATED ALGORITHMS AND DATA STRUCTURES, THEY DO NOT PROVIDE A UNIFYING STRUCTURE AND OFFER LITTLE GUIDANCE ON HOW TO APPROPRIATELY SELECT AMONG THEM. FURTHERMORE, THESE TEXTS FURNISH LITTLE, IF ANY, SOURCE CODE AND LEAVE MANY OF THE MORE DIFFICULT ASPECTS OF THE IMPLEMENTATION AS EXERCISES. A FRESH ALTERNATIVE TO

COMMUNITY SEARCH OVER BIG GRAPHS XIN HUANG 2022-05-31 COMMUNITIES SERVE AS BASIC STRUCTURAL BUILDING BLOCKS FOR UNDERSTANDING THE ORGANIZATION OF MANY REAL-WORLD NETWORKS, INCLUDING SOCIAL, BIOLOGICAL, COLLABORATION, AND COMMUNICATION NETWORKS. RECENTLY, COMMUNITY SEARCH OVER GRAPHS HAS ATTRACTED SIGNIFICANTLY INCREASING ATTENTION, FROM SMALL, SIMPLE, AND STATIC GRAPHS TO BIG, EVOLVING, ATTRIBUTED, AND LOCATION-BASED GRAPHS. IN THIS BOOK, WE FIRST REVIEW THE BASIC CONCEPTS OF NETWORKS, COMMUNITIES, AND VARIOUS KINDS OF DENSE SUBGRAPH MODELS. WE THEN SURVEY THE STATE OF THE ART IN COMMUNITY SEARCH TECHNIQUES ON VARIOUS KINDS OF NETWORKS ACROSS DIFFERENT APPLICATION AREAS. SPECIFICALLY, WE DISCUSS COHESIVE COMMUNITY SEARCH, ATTRIBUTED COMMUNITY SEARCH, SOCIAL CIRCLE DISCOVERY, AND GEO-SOCIAL GROUP SEARCH. WE HIGHLIGHT THE CHALLENGES POSED BY DIFFERENT COMMUNITY SEARCH PROBLEMS. WE PRESENT THEIR MOTIVATIONS, PRINCIPLES, METHODOLOGIES, ALGORITHMS, AND APPLICATIONS, AND PROVIDE A COMPREHENSIVE COMPARISON OF THE EXISTING TECHNIQUES. THIS BOOK FINALLY CONCLUDES BY LISTING PUBLICLY AVAILABLE REAL-WORLD DATASETS AND USEFUL TOOLS FOR FACILITATING

REFEREED PROCEEDINGS OF THE 16TH ANNUAL EUROPEAN SYMPOSIUM ON ALGORITHMS, ESA 2008, HELD IN KARLSRUHE, GERMANY, IN SEPTEMBER 2008 IN THE CONTEXT OF THE COMBINED CONFERENCE ALGO 2008. THE 67 REVISED FULL PAPERS PRESENTED TOGETHER WITH 2 INVITED LECTURES WERE CAREFULLY REVIEWED AND SELECTED: 51 PAPERS OUT OF 147 SUBMISSIONS FOR THE DESIGN AND ANALYSIS TRACK AND 16 OUT OF 53 SUBMISSIONS IN THE ENGINEERING AND APPLICATIONS TRACK. THE PAPERS ADDRESS ALL CURRENT SUBJECTS IN ALGORITHMS REACHING FROM DESIGN AND ANALYSIS ISSUES OF ALGORITHMS OVER TO REAL-WORLD APPLICATIONS AND ENGINEERING OF ALGORITHMS IN VARIOUS FIELDS. SPECIAL FOCUS IS GIVEN TO MATHEMATICAL PROGRAMMING AND OPERATIONS RESEARCH, INCLUDING COMBINATORIAL OPTIMIZATION, INTEGER PROGRAMMING, POLYHEDRAL COMBINATORICS AND NETWORK OPTIMIZATION.

AUTOMATA, LANGUAGES AND PROGRAMMING LUCA ACETO 2011-06-21 THE TWO-VOLUME SET LNCS 6755 AND LNCS 6756 CONSTITUTES THE REFEREED PROCEEDINGS OF THE 38TH INTERNATIONAL COLLOQUIUM ON AUTOMATA, LANGUAGES AND PROGRAMMING, ICALP 2011, HELD IN ZÜRICH, SWITZERLAND, IN JULY 2011. THE 114 REVISED FULL PAPERS (68 PAPERS FOR TRACK A, 29 FOR TRACK B, AND 17 FOR TRACK C) PRESENTED TOGETHER WITH 4 INVITED TALKS, 3 BEST STUDENT PAPERS, AND 3 BEST PAPERS WERE CAREFULLY REVIEWED AND SELECTED FROM A TOTAL OF 398 SUBMISSIONS. THE PAPERS ARE GROUPED IN THREE MAJOR TRACKS ON ALGORITHMS, COMPLEXITY AND GAMES; ON LOGIC, SEMANTICS, AUTOMATA, AND THEORY OF PROGRAMMING; AS WELL AS ON FOUNDATIONS OF NETWORKED COMPUTATION: MODELS, ALGORITHMS AND INFORMATION MANAGEMENT.

TIBETAN MEDICINAL PLANTS CHRISTA KLETTER 2001 INCREASINGLY, MODERN MEDICINE RELIES ON SO CALLED TRADITIONAL OR ANCIENT MEDICAL KNOWLEDGE. HOLISTIC PRACTICES SUCH AS ADHERING TO PROPER DIET, OBSERVING RULES FOR APPROPRIATE BEHAVIOR, AND ADMINISTERING MEDICAL PREPARATIONS ARE COUPLED WITH THE LATEST TECHNOLOGY AND METHODS TO TREAT THE WHOLE PATIENT. IN LIGHT OF THIS TREND, THERE IS MUCH TO BE GAINED FROM UNDERSTANDING OF ONE OF THE OLDEST MEDICAL SYSTEMS STILL IN EXISTENCE. *TIBETAN MEDICINAL PLANTS* PROVIDES YOU A DETAILED ANALYSIS OF HOW TIBETAN PLANTS ARE USED IN THIS CENTURIES OLD SYSTEM. THE BOOK OPENS WITH A SUMMARY OF TIBETAN MEDICINE AND COVERS THE VARIOUS HABITATS IN WHICH THE PLANTS ARE FOUND. THE MAIN PART OF THIS VOLUME ENCOMPASSES 60 MONOGRAPHS LISTED BY THE TIBETAN PLANT NAME. EACH MONOGRAPH CONSISTS OF SEVERAL CHAPTERS ADDRESSING DIFFERENT TOPICS RELATED EITHER TO THE TIBETAN OR THE WESTERN APPROACH. MOST OF THE MONOGRAPHS CONTAIN A DESCRIPTION OF THE MACROSCOPIC AND MICROSCOPIC CHARACTERISTICS OF THE USED PLANT PARTS, AND ANATOMICAL FEATURES OF 76 PLANTS ARE PROVIDED. EACH MONOGRAPH PRESENTS AN OVERVIEW OF THE KNOWN CHEMICAL CONSTITUENTS AND PHARMACOLOGICAL PROPERTIES OF EACH PLANT AND DESCRIBES THEIR USE IN TIBETAN MEDICINE. IN CONTRAST TO OTHER PUBLICATIONS ON TIBETAN MEDICINE, WHERE TRANSLATIONS OF THE TIBETAN TERMS ARE GIVEN IN OTHER LANGUAGES, THIS BOOK TREATS THE TIBETAN WORD AS A TECHNICAL TERM, KEEPS THE TIBETAN TERM AND EXPLAINS ITS MEANING, LESSENING CONFUSION BY

REDUCING THE NUMBER OF TRANSLATIONS. TRADITIONAL TIBETAN MEDICINE HAS BEEN IN EXISTENCE FOR CENTURIES. CURATIVE PRACTICES EXISTED IN THE PREBUDDHISTIC ERA, AND THE ART OF HEALING DEVELOPED MORE THAN 2500 YEARS AGO. TIBETAN MEDICINAL PLANTS PROVIDES A COMPREHENSIVE OVERVIEW OF ALL PLANT TYPES, THUS MAKING IT EASIER TO GRASP THE TIBETAN CONCEPT. IT GIVES YOU A COMPREHENSIVE LOOK AT THIS CENTURIES OLD SCIENCE.

TOWARDS AUTONOMOUS ROBOTIC SYSTEMS KASPAR ALTHOEFFER 2019-07-16 THE TWO VOLUMES LNAI 11649 AND 11650 CONSTITUTE THE REFEREED PROCEEDINGS OF THE 20TH ANNUAL CONFERENCE "TOWARDS AUTONOMOUS ROBOTICS", TAROS 2019, HELD IN LONDON, UK, IN JULY 2019. THE 87 FULL PAPERS AND 12 SHORT PAPERS PRESENTED WERE CAREFULLY REVIEWED AND SELECTED FROM 101 SUBMISSIONS. THE PAPERS PRESENT AND DISCUSS SIGNIFICANT FINDINGS AND ADVANCES IN AUTONOMOUS ROBOTICS RESEARCH AND APPLICATIONS. THEY ARE ORGANIZED IN THE FOLLOWING TOPICAL SECTIONS: ROBOTIC GRIPPERS AND MANIPULATION; SOFT ROBOTICS, SENSING AND MOBILE ROBOTS; ROBOTIC LEARNING, MAPPING AND PLANNING; HUMAN-ROBOT INTERACTION; AND ROBOTIC SYSTEMS AND APPLICATIONS.

LOGIC FOR PROGRAMMING AND AUTOMATED REASONING MICHEL PARIGOT 2003-07-31 THIS BOOK CONSTITUTES THE REFEREED PROCEEDINGS OF THE 7TH INTERNATIONAL CONFERENCE ON LOGIC FOR PROGRAMMING AND AUTOMATED REASONING, LPAR 2000, HELD IN REUNION ISLAND, FRANCE IN NOVEMBER 2000. THE 26 REVISED FULL PAPERS PRESENTED TOGETHER WITH FOUR INVITED CONTRIBUTIONS WERE CAREFULLY REVIEWED AND SELECTED FROM 65 SUBMISSIONS. THE PAPERS ARE ORGANIZED IN TOPICAL SECTIONS ON NONMONOTONIC REASONING, DESCRIPTIVE COMPLEXITY, SPECIFICATION AND AUTOMATIC PROOF-ASSISTANTS, THEOREM PROVING, VERIFICATION, LOGIC PROGRAMMING AND CONSTRAINT LOGIC PROGRAMMING, NONCLASSICAL LOGICS AND THE LAMBDA CALCULUS, LOGIC AND DATABASES, PROGRAM ANALYSIS, MU-CALCULUS, PLANNING AND REASONING ABOUT ACTIONS.

OPTIMAL SOCIAL INFLUENCE WEN XU 2020-01-29 THIS SELF-CONTAINED BOOK DESCRIBES SOCIAL INFLUENCE FROM A COMPUTATIONAL POINT OF VIEW, WITH A FOCUS ON RECENT AND PRACTICAL APPLICATIONS, MODELS, ALGORITHMS AND OPEN TOPICS FOR FUTURE RESEARCH. RESEARCHERS, SCHOLARS, POSTGRADUATES AND DEVELOPERS INTERESTED IN RESEARCH ON SOCIAL NETWORKING AND THE SOCIAL INFLUENCE RELATED ISSUES WILL FIND THIS BOOK USEFUL AND MOTIVATING. THE LATEST RESEARCH ON SOCIAL COMPUTING IS PRESENTED ALONG WITH AND ILLUSTRATIONS ON HOW TO UNDERSTAND AND MANIPULATE SOCIAL INFLUENCE FOR KNOWLEDGE DISCOVERY BY APPLYING VARIOUS DATA MINING TECHNIQUES IN REAL WORLD SCENARIOS. EXPERIMENTAL REPORTS, SURVEY PAPERS, MODELS AND ALGORITHMS WITH SPECIFIC OPTIMIZATION PROBLEMS ARE DEPICTED. THE MAIN TOPICS COVERED IN THIS BOOK ARE: CHARACTERISTICS OF SOCIAL NETWORKS, MODELING OF SOCIAL INFLUENCE PROPAGATION, POPULAR RESEARCH PROBLEMS IN SOCIAL INFLUENCE ANALYSIS SUCH AS INFLUENCE MAXIMIZATION, RUMOR BLOCKING, RUMOR SOURCE DETECTION, AND

MULTIPLE SOCIAL INFLUENCE COMPETING.

SIAM JOURNAL ON COMPUTING SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS
2002

APPLIED PARALLEL COMPUTING JACK DONGARRA 2006-03-03 THIS BOOK CONSTITUTES THE REFEREED PROCEEDINGS OF THE 7TH INTERNATIONAL CONFERENCE ON APPLIED PARALLEL COMPUTING, PARA 2004, HELD IN JUNE 2004. THE 118 REVISED FULL PAPERS PRESENTED TOGETHER WITH FIVE INVITED LECTURES AND 15 CONTRIBUTED TALKS WERE CAREFULLY REVIEWED AND SELECTED FOR INCLUSION IN THE PROCEEDINGS. THE PAPERS ARE ORGANIZED IN TOPICAL SECTIONS.

WEB-AGE INFORMATION MANAGEMENT LIWEI WANG 2012-03-14 THIS BOOK CONSTITUTES THE THOROUGHLY REFEREED POST-CONFERENCE PROCEEDINGS OF THREE WORKSHOPS OF THE 12TH INTERNATIONAL CONFERENCE ON WEB-AGE INFORMATION MANAGEMENT, WAIM 2011, HELD IN WUHAN, CHINA, IN SEPTEMBER 2011. THE 20 REVISED FULL PAPERS ARE ORGANIZED IN TOPICAL SECTIONS ON THE THREE FOLLOWING WORKSHOPS: THE FIRST INTERNATIONAL WORKSHOP ON WEB-BASED GEOGRAPHIC INFORMATION MANAGEMENT (WGIM 2011), THE THIRD INTERNATIONAL WORKSHOP ON XML DATA MANAGEMENT (XMLDM 2011), AND THE FIRST INTERNATIONAL WORKSHOP ON SOCIAL NETWORK ANALYSIS (SNA 2011).

ENERGY RESEARCH ABSTRACTS 1994 SEMIANNUAL, WITH SEMIANNUAL AND ANNUAL INDEXES. REFERENCES TO ALL SCIENTIFIC AND TECHNICAL LITERATURE COMING FROM DOE, ITS LABORATORIES, ENERGY CENTERS, AND CONTRACTORS. INCLUDES ALL WORKS DERIVING FROM DOE, OTHER RELATED GOVERNMENT-SPONSORED INFORMATION, AND FOREIGN NONNUCLEAR INFORMATION. ARRANGED UNDER 39 CATEGORIES, E.G., BIOMEDICAL SCIENCES, BASIC STUDIES; BIOMEDICAL SCIENCES, APPLIED STUDIES; HEALTH AND SAFETY; AND FUSION ENERGY. ENTRY GIVES BIBLIOGRAPHICAL INFORMATION AND ABSTRACT. CORPORATE, AUTHOR, SUBJECT, REPORT NUMBER INDEXES.

THE SOCIAL SCIENCES EMPOWERED FORD LUMBAN GAOL 2020-04-14 THE SOCIAL SCIENCES EMPOWERED CONTAINS PAPERS PRESENTED AT THE 7TH INTERNATIONAL CONGRESS ON INTERDISCIPLINARY BEHAVIOR AND SOCIAL SCIENCE 2018 (ICIBSoS 2018), HELD 21-22 JULY 2018, BANGKOK, THAILAND, 22-23 SEPTEMBER 2018, BALI, INDONESIA, 6-7 OCTOBER 2018, KUTA, BALI, INDONESIA, AND 24-25 NOVEMBER 2018, YOGYAKARTA, INDONESIA. ICIBSoS 2018 PROVIDED THE ECONOMIC AND SOCIAL ANALYSIS NECESSARY FOR ADDRESSING ISSUES IN HUMANITIES DISCIPLINES SUCH AS EDUCATION, SOCIOLOGY, ANTHROPOLOGY, POLITICS, HISTORY, PHILOSOPHY, PSYCHOLOGY AS WELL AS FOOD SECURITY. CONTRIBUTIONS TO THESE PROCEEDINGS GIVE NECESSARY INSIGHT INTO THE CULTURAL AND HUMAN DIMENSION OF SUCH DIVERSE RESEARCH AREAS AS TRANSPORT, CLIMATE CHANGE, ENERGY AND AGRICULTURE. ICIBSoS 2018 ALSO ANALYSES THE CULTURAL, BEHAVIOURAL, PSYCHOLOGICAL, SOCIAL AND INSTITUTIONAL DRIVERS THAT TRANSFORM PEOPLE'S BEHAVIOUR AND THE GLOBAL ENVIRONMENT. ICIBSoS 2018 PROPOSES NEW IDEAS, STRATEGIES AND GOVERNANCE STRUCTURES FOR OVERCOMING THE

CRISIS FROM A GLOBAL PERSPECTIVE, INNOVATING THE PUBLIC SECTOR AND BUSINESS MODELS, PROMOTING SOCIAL INNOVATION AND FOSTERING CREATIVITY IN THE DEVELOPMENT OF SERVICES AND PRODUCT DESIGN.

WEB-AGE INFORMATION MANAGEMENT BIN CUI 2016-05-27 THIS TWO-VOLUME SET, LNCS 9658 AND 9659, CONSTITUTES THE THOROUGHLY REFEREED PROCEEDINGS OF THE 17TH INTERNATIONAL CONFERENCE ON WEB-AGE INFORMATION MANAGEMENT, WAIM 2016, HELD IN NANCHANG, CHINA, IN JUNE 2016. THE 80 FULL RESEARCH PAPERS PRESENTED TOGETHER WITH 8 DEMONSTRATIONS WERE CAREFULLY REVIEWED AND SELECTED FROM 266 SUBMISSIONS. THE FOCUS OF THE CONFERENCE IS ON FOLLOWING TOPICS: DATA MINING, SPATIAL AND TEMPORAL DATABASES, RECOMMENDER SYSTEMS, GRAPH DATA MANAGEMENT, INFORMATION RETRIEVAL, PRIVACY AND TRUST, QUERY PROCESSING AND OPTIMIZATION, SOCIAL MEDIA, BIG DATA ANALYTICS, AND DISTRIBUTED AND CLOUD COMPUTING.

HIGH-UTILITY PATTERN MINING PHILIPPE FOURNIER-VIGER 2019-01-18 THIS BOOK PRESENTS AN OVERVIEW OF TECHNIQUES FOR DISCOVERING HIGH-UTILITY PATTERNS (PATTERNS WITH A HIGH IMPORTANCE) IN DATA. IT INTRODUCES THE MAIN TYPES OF HIGH-UTILITY PATTERNS, AS WELL AS THE THEORY AND CORE ALGORITHMS FOR HIGH-UTILITY PATTERN MINING, AND DESCRIBES RECENT ADVANCES, APPLICATIONS, OPEN-SOURCE SOFTWARE, AND RESEARCH OPPORTUNITIES. IT ALSO DISCUSSES SEVERAL TYPES OF DISCRETE DATA, INCLUDING CUSTOMER TRANSACTION DATA AND SEQUENTIAL DATA. THE BOOK CONSISTS OF TWELVE CHAPTERS, SEVEN OF WHICH ARE SURVEYS PRESENTING THE MAIN SUBFIELDS OF HIGH-UTILITY PATTERN MINING, INCLUDING ITEMSET MINING, SEQUENTIAL PATTERN MINING, BIG DATA PATTERN MINING, METAHEURISTIC-BASED APPROACHES, PRIVACY-PRESERVING PATTERN MINING, AND PATTERN VISUALIZATION. THE REMAINING FIVE CHAPTERS DESCRIBE KEY TECHNIQUES AND APPLICATIONS, SUCH AS DISCOVERING CONCISE REPRESENTATIONS AND REGULAR PATTERNS.

EXPLORATORY IMAGE DATABASES SIMONE SANTINI 2001-09-05 THE EXPLOSION OF COMPUTER USE AND INTERNET COMMUNICATION HAS PLACED NEW EMPHASIS ON THE ABILITY TO STORE, RETRIEVE AND SEARCH FOR ALL TYPES OF IMAGES, BOTH STILL PHOTO AND VIDEO IMAGES. THE SUCCESS AND THE FUTURE OF VISUAL INFORMATION RETRIEVAL DEPENDS ON THE CUTTING EDGE RESEARCH AND APPLICATIONS EXPLORED IN THIS BOOK. IT COMBINES THE EXPERTISE FROM BOTH COMPUTER VISION AND DATABASE RESEARCH. UNLIKE TEXT RETRIEVAL AND TEXT/NUMERIC DATABASES THE CHALLENGES OF IMAGE DATABASES ARE ENORMOUS. HOW DO YOU USE "DATA MINING" TO SEARCH FOR AN IMAGE IF YOU DO NOT HAVE "KEY WORDS" TO SEARCH? EXPLORATORY IMAGE DATABASES INTRODUCES THE IDEA THAT IT IS POSSIBLE TO SOLVE THIS PROBLEM BY MERGING DATABASE SYSTEMS INTO A SINGLE SEARCH AND BROWSE ACTIVITY CALLED "EXPLORATION." EXPLORATORY IMAGE DATABASES IS ONE OF THE FIRST SINGLE-AUTHOR BOOKS THAT UNIFIES THE CRITICAL EMERGING TOPIC OF IMAGE DATABASES. A NEW APPROACH TO IMAGE DATABASES, THE WORK IS DIVIDED INTO FOUR CENTRAL PARTS: INTRODUCTION TO THE PROBLEMS THAT IMAGE DATABASE RESEARCH MUST

SOLVE; COMPUTER VISION AND INFORMATION RETRIEVAL TECHNIQUES; IMAGE DATABASE ISSUES; AND INTERFACE AND ENGINES FOR VISUAL SEARCHES. EXAMPLE: IMAGINE THE DIFFICULTY OF BUILDING AND USING A DATABASE FOR "FACE RECOGNITION," WHERE AN IMAGE OF A FACE IS USED. IN ORDER TO EFFECTIVELY USE THE IMAGE A HUGE NUMBER OF CHARACTERISTICS WOULD NEED TO BE ENTERED IN THE DATABASE. THE GOAL OF FUTURE IMAGE DATABASES IS TO USE HARDWARE AND SOFTWARE TO RECOGNIZE AND CATEGORIZE IMAGES WITHOUT TYPING IN CHARACTERISTICS. * COMPREHENSIVE COVERAGE OF THE IMAGE ANALYSIS AS WELL AS THE DATABASE/THEORETICAL ASPECTS OF IMAGE DATABASES. * EXTENSIVE COVERAGE OF INTERFACES AND INTERACTION MODELS, WITH A THEORETICAL FRAMEWORK FOR THE DEVELOPMENT OF NEW INTERACTION SCHEMES. * IDENTIFIES THREE INTERACTION MODELS BETWEEN USERS AND IMAGE DATABASES, TWO OF WHICH HAVE NO COUNTERPART IN TRADITIONAL DATABASES. * COVERAGE OF THE RELATION BETWEEN IMAGE AND TEXT, INCLUDING MIXED SEARCH MODELS AND THE AUTOMATIC DETERMINATION OF THE RELATION BETWEEN IMAGES AND TEXT ON LARGE CORPUSES LIKE THE WEB. * ANALYSIS OF THE PROCESS OF SIGNIFICATION IN IMAGES AND ITS INFLUENCE ON THE INTERACTION MODELS AND TECHNOLOGICAL PROBLEMS OF IMAGE DATABASES.

GRAPH-THEORETIC CONCEPTS IN COMPUTER SCIENCE H NOLTEMEIER 1981-02

DIGITAL ECONOMY: COMPLEXITY AND VARIETY VS. RATIONALITY ELENA G. POPKOVA 2019-09-14 THIS PROCEEDINGS BOOK FEATURES SELECTED PAPERS FROM THE 9TH NATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE "DIGITAL ECONOMY: COMPLEXITY AND VARIETY VS. RATIONALITY," WHICH TOOK PLACE ON APRIL 17-18, 2019, IN VLADIMIR (RUSSIAN FEDERATION). IT PRESENTS THE LATEST RESEARCH IN THE FIELD OF THE DIGITAL ECONOMY, DISCUSSING ITS ROLE IN THE CREATION OF ADVANTAGES FOR THE STATE, ENTREPRENEURSHIP, AND SOCIETY, AS WELL AS THE EMERGENCE OF NEW ECONOMIC RISKS. THE CHAPTERS ADDRESS THE FOLLOWING TOPICS: THE IMPORTANCE OF ECONOMY'S DIGITAL MODERNIZATION, TOOLS FOR THE FORMATION OF THE DIGITAL ECONOMY IN RUSSIA, SPECIFIC FEATURES AND PERSPECTIVES OF DIGITAL MODERNIZATION OF THE REGIONAL ECONOMY, AN OVERVIEW OF THE SOCIAL CONSEQUENCES OF TRANSITION TO THE DIGITAL ECONOMY, FINANCIAL COMPONENTS OF THE DIGITAL ECONOMY, LEGAL CHALLENGES REGARDING THE DIGITAL REALITY FOR SOCIETY AND STATE, AND THE MAIN CHALLENGES AND THREATS TO THE PROFESSION OF JURISPRUDENCE IN THE CONTEXT OF THE DIGITIZATION OF THE ECONOMY. INTENDED FOR REPRESENTATIVES OF THE ACADEMIC COMMUNITY AND RESEARCHERS INTERESTED IN THE FORMATION OF THE DIGITAL ECONOMY AND DIGITAL SOCIETY AS WELL AS UNDERGRADUATES, POSTGRADUATES, AND MASTERS OF ECONOMIC SPECIALTIES, THE BOOK IS ALSO A VALUABLE RESOURCE FOR COMPANIES THAT USE OR WISHING TO IMPLEMENT DIGITAL

TECHNOLOGIES INTO THEIR ECONOMIC PRACTICES; AND PUBLIC AND GOVERNMENT EMPLOYEES INVOLVED WITH MONITORING, CONTROL, AND REGULATION OF THE DIGITAL ECONOMY. GRAPH ALGORITHMS IN THE LANGUAGE OF LINEAR ALGEBRA JEREMY KEPNER 2011-01-01 THE CURRENT EXPONENTIAL GROWTH IN GRAPH DATA HAS FORCED A SHIFT TO PARALLEL COMPUTING FOR EXECUTING GRAPH ALGORITHMS. IMPLEMENTING PARALLEL GRAPH ALGORITHMS AND ACHIEVING GOOD PARALLEL PERFORMANCE HAVE PROVEN DIFFICULT. THIS BOOK ADDRESSES THESE CHALLENGES BY EXPLOITING THE WELL-KNOWN DUALITY BETWEEN A CANONICAL REPRESENTATION OF GRAPHS AS ABSTRACT COLLECTIONS OF VERTICES AND EDGES AND A SPARSE ADJACENCY MATRIX REPRESENTATION. THIS LINEAR ALGEBRAIC APPROACH IS WIDELY ACCESSIBLE TO SCIENTISTS AND ENGINEERS WHO MAY NOT BE FORMALLY TRAINED IN COMPUTER SCIENCE. THE AUTHORS SHOW HOW TO LEVERAGE EXISTING PARALLEL MATRIX COMPUTATION TECHNIQUES AND THE LARGE AMOUNT OF SOFTWARE INFRASTRUCTURE THAT EXISTS FOR THESE COMPUTATIONS TO IMPLEMENT EFFICIENT AND SCALABLE PARALLEL GRAPH ALGORITHMS. THE BENEFITS OF THIS APPROACH ARE REDUCED ALGORITHMIC COMPLEXITY, EASE OF IMPLEMENTATION, AND IMPROVED PERFORMANCE.

CONSENSUS AND SYNCHRONIZATION IN COMPLEX NETWORKS LJUPCO KOCAREV 2013-01-18 IN THIS BOOK FOR THE FIRST TIME TWO SCIENTIFIC FIELDS - CONSENSUS FORMATION AND SYNCHRONIZATION OF COMMUNICATIONS - ARE PRESENTED TOGETHER AND EXAMINED THROUGH THEIR INTERRELATIONAL ASPECTS, OF RAPIDLY GROWING IMPORTANCE. BOTH FIELDS HAVE INDEED ATTRACTED ENORMOUS RESEARCH INTEREST ESPECIALLY IN RELATION TO COMPLEX NETWORKS. IN NETWORKS OF DYNAMIC SYSTEMS (OR AGENTS), CONSENSUS MEANS TO REACH AN AGREEMENT REGARDING A CERTAIN QUANTITY OF INTEREST THAT DEPENDS ON THE STATE OF ALL DYNAMICAL SYSTEMS (AGENTS). CONSENSUS PROBLEMS HAVE A LONG HISTORY IN CONTROL THEORY AND COMPUTER SCIENCES, AND FORM THE FOUNDATION OF THE FIELD OF DISTRIBUTED COMPUTING. SYNCHRONIZATION, WHICH DEFINES CORRELATED-IN-TIME BEHAVIOR BETWEEN DIFFERENT PROCESSES AND ROOTS GOING BACK TO HUYGENS TO THE LEAST, IS NOW A HIGHLY POPULAR, EXCITING AND RAPIDLY DEVELOPING TOPIC, WITH APPLICATIONS RANGING FROM BIOLOGICAL NETWORKS TO MATHEMATICAL EPIDEMIOLOGY, AND FROM PROCESSING INFORMATION IN THE BRAIN TO ENGINEERING OF COMMUNICATIONS DEVICES. THE BOOK REVIEWS RECENT FINDING IN BOTH FIELDS AND DESCRIBES NOVEL APPROACHES TO CONSENSUS FORMATION, WHERE CONSENSUS IS REALIZED AS AN INSTANCE OF THE NONLINEAR DYNAMICS PARADIGM OF CHAOS SYNCHRONIZATION. THE CHAPTERS ARE WRITTEN BY WORLD-KNOWN EXPERTS IN BOTH FIELDS AND COVER TOPICS RANGING FROM FUNDAMENTS TO VARIOUS APPLICATIONS OF CONSENSUS AND SYNCHRONIZATION.