Intelligent Information And Database Systems 6th Asian Conference Aciids 2014 Bangkok Thailand April 7 9 2014 Proceedings Part I Lecture Notes In Computer Science

The objective of this book is to contribute to the development of the intelligent information and database systems with the essentials of current knowledge, experience and know-how. The book contains a selection of 40 chapters based on original research presented as posters during the 8th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2016) held on 14–16 March 2016 in Da Nang, Vietnam. The papers to some extent reflect the achievements of scientific teams from 17 countries in five continents. The volume is divided into six parts: (a) Computational Intelligence in Data Mining and Machine Learning, (b) Ontologies, Social Networks and Recommendation Systems, (c) Web Services, Cloud Computing, Security and Intelligent Internet Systems, (d) Knowledge Management and Language Processing, (e) Image, Video, Motion Analysis and Recognition, and (f) Advanced Computing Applications and Technologies. The book is an excellent resource for researchers, those working in artificial intelligence, multimedia, networks and big data technologies, as well as for students interested in computer science and other related fields.

This book presents recent research in intelligent information and database systems. The carefully selected contributions were initially accepted for presentation as posters at the 9th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2017) held from to 5 April 2017 in Kanazawa, Japan. While the contributions are of an advanced scientific level, several are accessible for non-expert readers. The book brings together 47 chapters divided into six main parts: • Part I. From Machine Learning to Data Mining.• Part II. Big Data and Collaborative Decision Support Systems,• Part III. Computer Vision Analysis, Detection, Tracking and Recognition,• Part IV. Data-Intensive Text Processing,• Part V. Innovations in Web and Internet Technologies, and• Part VI. New Methods and Applications in Information and Software Engineering. The book is an excellent resource for researchers and those working in algorithmics, artificial and computational intelligence, collaborative systems, decision management and support systems, natural language processing, image and text processing, Internet technologies, and information and software engineering, as well as for students interested in such research areas.

The three-volume set LNAI 7196, LNAI 7197 and LNAI 7198 constitutes the refereed proceedings of the 4th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2012, held in Kaohsiung, Taiwan in March 2012. The 161 revised papers presented were carefully reviewed and selected from more than 472 submissions. The papers included cover the following topics: intelligent database systems, data warehouses and data mining, natural language processing and computational linguistics, semantic Web, social networks and recommendation systems, collaborative systems and applications, e-bussiness and e-commerce systems, e-learning systems, information modeling and requirements engineering, information retrieval systems, intelligent agents and multi-agent systems, intelligent information systems, intelligent internet systems, intelligent optimization techniques, object-relational DBMS, ontologies and knowledge sharing, semi-structured and XML database systems, unified modeling language and unified processes, Web services and semantic Web, computer networks and communication systems.

This book consists of 35 chapters presenting different theoretical and practical aspects of Intelligent Information and Database Systems. Nowadays both Intelligent and Database Systems are applied in most of the areas of human activities which necessitates further research in these areas. In this book various interesting issues related to the intelligent information models and methods as well as their advanced applications, database systems applications, data models and their analysis and digital multimedia methods and applications are presented and discussed both from the practical and theoretical points of view. The book is organized in four parts devoted to intelligent systems models and methods, intelligent systems advanced applications, database systems methods and applications and multimedia systems methods and applications. The book will be interesting for practitioners and researchers, especially graduate and PhD students of information technology and computer science, as well more experienced academics and specialists interested in developing and verification of intelligent information, database and multimedia systems models, methods and applications. The readers of this volume are enabled to find many inspiring ideas and motivating practical examples that will help them in the current and future work.

The two-volume set LNAI 6591 and LNCS 6592 constitutes the refereed proceedings of the Third International Conference on Intelligent Information and Database Systems, ACIIDS 2011, held in Daegu, Korea, in April 2011. The 110 revised papers presented together with 2 keynote speeches were carefully reviewed and selected from 310 submissions. The papers are thematically divided into two volumes; they cover the following topics: intelligent database systems, data warehouses and data mining, natural language processing and computational linguistics, semantic Web, social networks and recommendation systems, technologies for intelligent information systems, collaborative systems and applications, e-business and e-commerce systems, e-learning systems, information modeling and requirements engineering, information retrieval systems, intelligent agents snd multi-agent systems, intelligent information systems, intelligent internet systems, intelligent optimization techniques, object-relational DBMS, ontologies and knowledge sharing, semi-structured and XML database systems, unified modeling language and unified processes, Web services and semantic Web, computer networks and communication systems.

This volume constitutes the refereed proceedings of the 13th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2021, held in Phuket, Thailand, in April 2021. The total of 35 full papers accepted for publication in these proceedings were carefully reviewed and selected from 291 submissions. The papers are organized in the following topical sections: data mining and machine learning methods; advanced data mining techniques and applications; intelligent and contextual systems; natural language processing; network systems and applications; computational imaging and vision; decision support and control systems; data modelling and processing for Industry 4.0.

This book offers a unique blend of reports on both theoretical models and their applications in the area of Intelligent Information and Database Systems. The reports cover a broad range of research topics, including advanced learning techniques, knowledge engineering, Natural Language Processing (NLP), decision support systems, Internet of things (IoT), computer vision, and tools and techniques for Intelligent Information Systems. They are extended versions of papers presented at the ACIIDS 2018 conference (10th Asian Conference on Intelligent Information and Database Systems), which was held in Dong Hoi City, Vietnam on 19–21 March 2018. What all researchers and students of computer science need is a state-of-the-art report on the latest trends in their respective areas of interest. Over the years, researchers have proposed increasingly complex theoretical models, which provide the theoretical basis for numerous applications. The applications, in turn, have a profound influence on virtually every aspect of human activities, while also allowing us to validate the underlying theoretical concepts.

Intelligent information and database systems are two closely related subfields of modern computer science which have been known for over thirty years. They focus on the integration of artificial intelligence and classic database technologies to create the class of next generation information systems. The book focuses on new trends in intelligent information and database systems and discusses topics addressed to the foundations and principles of data, information, and knowledge models, methodologies for intelligent information and database systems analysis, design, and implementation, their validation, maintenance and evolution. They cover a broad spectrum of research topics discussed both from the practical and theoretical points of view such as: intelligent information retrieval, natural language processing, semantic web, social networks, machine learning, knowledge discovery, data mining, uncertainty management and reasoning under uncertainty, intelligent optimization techniques in information systems, security in databases systems, and multimedia data analysis. Intelligent information systems and their applications in business, medicine and industry, database systems applications, and intelligent internet systems are also presented and discussed in the book. The book consists of 38 chapters based on original works presented during the 7th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2015) held on 23–25 March 2015 in Bali, Indonesia. The book is divided into six parts related to Advanced Machine Learning and Data Mining, Intelligent Computational Methods in Information Systems, Semantic Web, Social Networks and Recommendation Systems, Cloud Computing and Intelligent Internet Systems, Knowledge and Language Processing, and Intelligent Information and Database Systems: Applications.

The two-volume set LNAI 10751 and 10752 constitutes the refereed proceedings of the 10th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2018, held in Dong Hoi City, Vietnam, in March 2018. The total of 133 full papers accepted for publication in these proceedings was carefully reviewed and selected from 423 submissions. They were organized in topical sections named: Knowledge Engineering and Semantic Web; Social Networks and Recommender Systems; Text Processing and Information Retrieval; Machine Learning and Data Mining; Decision Support and Control Systems; Computer Vision Techniques; Advanced Data Mining Techniques and Applications; Multiple Model Approach to Machine Learning; Sensor Networks and Internet of Things; Intelligent Information Systems; Data Structures Modeling for Knowledge Representation; Modeling, Storing, and Querying of Graph Data; Data Science and Computational Intelligence; Design Thinking Based R&D, Development Technique, and Project Based Learning; Intelligent and Contextual Systems; Intelligent Systems and Algorithms in Information Sciences; Intelligent Applications of Internet of Thing and Data Analysis Technologies; Intelligent Systems and Methods in Biomedicine; Intelligent Biomarkers of Neurodegenerative Processes in Brain; Analysis of Image, Video and Motion Data in Life Sciences; Computational Imaging and Vision; Computer Vision and Robotics; Intelligent Computer Vision Systems and Applications; Intelligent Systems for Optimization of Logistics and Industrial Applications.

The two-volume set LNAI 11431 and 11432 constitutes the refereed proceedings of the 11th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2019, held in Yogyakarta, Indonesia, in April 2019. The total of 124 full papers accepted for publication in these proceedings were carefully reviewed and selected from 309 submissions. The papers of the first volume are organized in the following topical sections: knowledge engineering and semantic web; text processing and information retrieval; machine learning and data mining; decision support and control systems; computer vision techniques; and databases and intelligent information systems. The papers of the second volume are divided into these topical sections: collective intelligence for service innovation, technology management, E-learning, and fuzzy intelligent systems; data structures modelling for knowledge representation; advanced data mining techniques and applications; intelligent information systems; intelligent methods and artificial intelligence for biomedical decision support systems; intelligent and contextual systems; intelligent systems and algorithms in information sciences; intelligent supply chains and e-commerce; sensor networks and Internet of Things; analysis of image, video, movements and brain intelligence in life sciences; and computer vision and intelligent systems.

This book constitutes the refereed proceedings of the 16th International Conference on Mobile Web and Intelligent Information Systems, MobiWIS 2019, held in Istanbul, Turkey, in August 2019. The 23 full papers presented together with 3 short papers were carefully reviewed and selected from 74 submissions. The papers of the MobiWIS 2019 deal with areas such as: mobile apps and services; web and mobile applications; security and privacy; wireless networks and cloud computing; intelligent mobile applications; and mobile web and practical applications.

The 2010 Asian Conference on Intelligent Information and Database Systems (ACIIDS) was the second event of the series of international scientific conferences for research and applications in the field of intelligent information and database systems. The aim of ACIIDS 2010 was to provide an international forum for scientific research in the technologies and applications of intelligent information, database systems and their applications. ACIIDS 2010 was co-organized by Hue University (Vietnam) and Wroclaw University of Technology (Poland) and took place in Hue city (Vietnam) during March 24–26, 2010. We received almost 330 papers from 35 countries. Each paper was peer reviewed by at least two members of the International Program Committee and International Reviewer Board. Only 96 best papers were selected for oral presentation and publi- tion in the two volumes of the ACIIDS 2010 proceedings. The papers included in the proceedings cover the following topics: artificial social systems, case studies and reports on deployments, collaborative learning, collaborative systems and applications, data warehousing and data mining, database management technologies, database models and query languages, database security and integrity,- business, e-commerce, e-finance, e-learning systems, information modeling and - quirements engineering, information retrieval systems, intelligent agents and mul- agent systems, intelligent information systems, intelligent internet systems, intelligent optimization techniques, object-relational DBMS, ontologies and information sharing, semi-structured and XML database systems, unified modeling language and unified processes, Web services and Semantic Web, computer networks and communication systems.

The book consists of 35 extended chapters which have been based on selected submissions to the poster session organized during the 3rd Asian Conference on Intelligent Information and Database Systems (20-22 April 2011 in Daegu, Korea). The book is organized into four parts, which are information retrieval and management, data mining and computational intelligence, service composition and user-centered approach, and intelligent management and e-business, respectively. All chapters in the book discuss theoretical and practical issues related to integration of artificial intelligence and database technologies in order to develop various intelligent information systems in many different domains. Such combination of artificial intelligence and database technologies has been regarded as one of the important interdisciplinary subfields of modern computer science, due to the

sustainable development of networked information systems. Especially, service-oriented architecture and global multimedia systems used on a number of different purpose call for these developments. The book will be of interest to postgraduate students, professors and practitioners in the areas of artificial intelligence and database systems to modern information environments. The editors hope that readers of this volume can find many inspiring ideas and influential practical examples and use them in their future work.

This volume constitutes the refereed proceedings of the 12th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2020, held in Phuket, Thailand, in March 2020. The total of 50 full papers accepted for publication in these proceedings were carefully reviewed and selected from 180 submissions. The papers are organized in the following topical sections: ?advanced big data, machine learning and data mining; industry applications of intelligent methods and systems; artificia intelligence, optimization, and databases in practical applications; intelligent applications of internet of things; recommendation and user centric applications of intelligent systems.

The two-volume set LNAI 8397 and LNAI 8398 constitutes the refereed proceedings of the 6th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2014, held in Bangkok, Thailand, in April 2014. The 125 revised papers presented were carefully reviewed and selected from 300 submissions. The papers address the following topics: natural language and text processing, intelligent information retrieval, semantic Web, social networks and recommendation systems, intelligent database systems, decision support systems, computer vision techniques, and machine learning and data mining. The papers are organized in topical sections on multiple model approach to machine learning, MMAML 2014, computational intelligence, CI 2014, engineering knowledge and semantic systems, IWEKSS 2014, innovations in intelligent computation and applications, IICA 2014, modeling and optimization techniques in information systems, database systems and industrial systems, MOT 2014, innovation via collective intelligences and globalization in business management, ICIGBM 2014, intelligent supply chains, ISC 2014, and human motion: acquisition, processing, analysis, synthesis and visualization for massive datasets, HMMD 2014.

This book constitutes the refereed proceedings of the 13th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2021, held in Phuket, Thailand, in April 2021.* The 67 full papers accepted for publication in these proceedings were carefully reviewed and selected from 291 submissions. The papers of the first volume are organized in the following topical sections: data mining methods and applications; machine learning methods; decision support and control systems; natural language processing; cybersecurity intelligent methods; computer vision techniques; computational imaging and vision; advanced data mining techniques and applications; intelligent and contextual systems; commonsense knowledge, reasoning and programming in artificial intelligence; data modelling and processing for industry 4.0; innovations in intelligent systems. *The conference was held virtually.

Intelligent information and database systems are two closely related and we- established subfields of modern computer science. They focus on the integration of artificial intelligence and classic database technologies in order to create the class of next generation information systems. The major target of this new gene- tion of systems is to provide end-users with intelligent behavior: simple and/or advanced learning, problem solving, uncertain and certain reasoning, se- organization, cooperation, etc. Such intelligent abilities are implemented in classic information systems to make them autonomous and user oriented, in particular when advanced problems of multimedia information and knowledge discovery, access, retrieval and manipulation are to be solved in the context of large, distr- uted and heterogeneous environments. It means that intelligent knowledge-based information and database systems are used to solve basic problems of large coll- tions management, carry out knowledge discovery from large data collections, reason about information under uncertain conditions, support users in their for- lation of complex queries etc. Topics discussed in this volume include but are not limited to the foundations and principles of data, information, and knowledge models, methodologies for intelligent information and database systems analysis, design, implementation, validation, maintenance and evolution.

Written from a multidisciplinary perspective, Intelligent Information Access investigates new insights into methods, techniques and technologies for intelligent information access. The chapters are written by participants in the Intelligent Information Access meeting, held in Cagliari, Italy, in December 2008.

The two-volume set LNAI 7802 and LNAI 7803 constitutes the refereed proceedings of the 5th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2013, held in Kuala Lumpur, Malaysia in March 2013. The 108 revised papers presented were carefully reviewed and selected from numerous submissions. The papers included are grouped into topical sections on: innovations in intelligent computation and applications; intelligent database systems; intelligent information systems; tools and applications; intelligent recommender systems; multiple modal approach to machine learning; engineering knowledge and semantic systems; computational biology and bioinformatics; computational intelligence; modeling and optimization techniques in information systems, database systems and industrial systems; intelligent supply chains; applied data mining for semantic Web; semantic Web and ontology; integration of information systems; and conceptual modeling in advanced database systems.

This book constitutes the refereed proceedings of the 12th International Conference on Mobile Web and Intelligent Information Systems, MobiWIS 2015, held in Rome, Italy, in August 2015. The 17 full papers and 3 short papers presented were carefully reviewed and selected from 55 submissions. The papers are organized in topical sections such as mobile services and applications; usability and visualization; mobile networks and applications; mobile data services; smart phones and mobile commerce applications.

On behalf of KES International and the KES 2009 Organising Committee we are very pleased to present these volumes, the proceedings of the 13th Inter- tional Conference on Knowledge-Based Intelligent Information and Engineering Systems, held at the Faculty of Physical Sciences and Mathematics, University of Chile, in Santiago de Chile. This year, the broad focus of the KES annual conference was on intelligent applications, emergent intelligent technologies and generic topics relating to the theory, methods, tools and techniques of intelligent systems. This covers a wide range of interests, attracting many high-quality papers, which were subjected to a very rigorous review process. Thus, these volumes contain the best papers, carefully selected from an impressively large number of submissions, on an - teresting range of intelligent-systems topics. For the ?rsttime in overa decade of KES events,the annualconferencecame to South America, to Chile. For many delegates this represented the antipode of their own countries. We recognise the tremendous e?ort it took for everyone to travel to Chile, and we hope this e?ort was rewarded. Delegates were presented with the opportunity of sharing their knowledge of high-tech topics on theory andapplicationofintelligentsystemsandestablishinghumannetworksforfuture work in similar research areas, creating new synergies, and perhaps even, new innovative ?elds of study. The fact that this occurred in an interesting and beautiful area of the world was an added bonus.

The four-volume set LNAI 6881-LNAI 6884 constitutes the refereed proceedings of the 15th International Conference on

Knowledge-Based Intelligent Information and Engineering Systems, KES 2011, held in Kaiserslautern, Germany, in September 2011. Part 2: The total of 244 high-quality papers presented were carefully reviewed and selected from numerous submissions. The 70 papers of Part 2 are organized in topical sections on web intelligence, text and multimedia mining and retrieval, intelligent tutoring systems and e-learning environments, other / misc. intelligent systems topics, methods and techniques of artificial and computational intelligence in economics, finance and decision making, workshop on seamless integration of semantic technologies in computer-supported office work (sistcow), innovations in chance discovery, advanced knowledge-based systems, recent trends in knowledge engineering, smart systems, and their applications.

The two-volume set LNAI 10191 and 10192 constitutes the refereed proceedings of the 9th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2017, held in Kanazawa, Japan, in April 2017. The total of 152 full papers accepted for publication in these proceedings was carefully reviewed and selected from 420 submissions. They were organized in topical sections named: Knowledge Engineering and Semantic Web; Social Networks and Recommender Systems; Text Processing and Information Retrieval; Intelligent Database Systems; Intelligent Information Systems; Decision Support and Control Systems; Machine Learning and Data Mining; Computer Vision Techniques; Advanced Data Mining Techniques and Applications; Intelligent and Context Systems; Multiple Model Approach to Machine Learning; Applications of Data Science; Artificial Intelligence Applications for E-services; Automated Reasoning and Proving Techniques with Applications in Intelligent Systems; Collective Intelligence for Service Innovation, Technology Opportunity, E-Learning and Fuzzy Intelligent Systems; Intelligent Computer Vision Systems and Applications; Intelligent Data Analysis, Applications and Technologies for Internet of Things; Intelligent Algorithms and Brain Functions; Intelligent Systems and Algorithms in Information Sciences; IT in Biomedicine; Intelligent Technologies in the Smart Cities in the 21st Century; Analysis of Image, Video and Motion Data in Life Sciences; Modern Applications of Machine Learning for Actionable Knowledge Extraction; Mathematics of Decision Sciences and Information Science; Scalable Data Analysis in Bioinformatics and Biomedical Informatics; and Technological Perspective of Agile Transformation in IT organizations.

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The Internet/WWW has made it possible to easily access quantities of information never available before. However, both the amount of information and the variation in quality pose obstacles to the efficient use of the medium. Artificial intelligence techniques can be useful tools in this context. Intelligent systems can be applied to searching the Internet and data-mining, interpreting Internet-derived material, the humanOCoWeb interface, remote condition monitoring and many other areas. This volume presents the latest research on the interaction between intelligent systems (neural networks, adaptive and connectionist paradigms, fuzzy and rule-based systems, intelligent agents) and the Internet/WWW. It surveys both the employment of intelligent systems to facilitate and enhance the use of the Internet, and applications where the Internet is a channel through which intelligent techniques are applied. Contents: A Review of Search and Resource Discovery Techniques in Peer-to-Peer Networks (S Botros & S Waterhouse); Adaptive Content Mapping for Internet Navigation (R W Brause & M Ueberall); Flexible Queries to XML Information (E Damiani et al.); Agent-Based Hypermedia Models (W Balzano et al.); Self-Organizing Neural Networks Application for Information Organization (R Rizzo); Emotion-Orientated Intelligent Systems (T Ichimura et al.); Public Opinion Channel: A Network-Based Interactive Broadcasting System for Supporting a Knowledge-Creating Community (T Fukuhara et al.); A New Era of Intelligent E-Commerce Based on Intelligent Java Agent-Based Development Environment (iJADE) (R S T Lee); Automated Internet Trading Based on Optimized Physics Models of Markets (L Ingber & R P Mondescu); Implementing and Maintaining a Web Case-Based Reasoning System for Heating Ventilation and Air Conditioning Systems Sales Support (I Watson). Readership: Engineers, researchers, students and technical managers interested in Internet-based intelligent systems."